

DECEMBER 1956 3/-

# Business

JOURNAL OF MANAGEMENT

## HOW TO HIRE 'TOP BRASS'

Page 69



## Building up a MILLION DOLLAR MARKET

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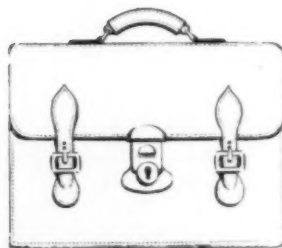


## Split-second Fault Finding

Science Prospect Page 83



# Shepherd's planned and furnished this canteen



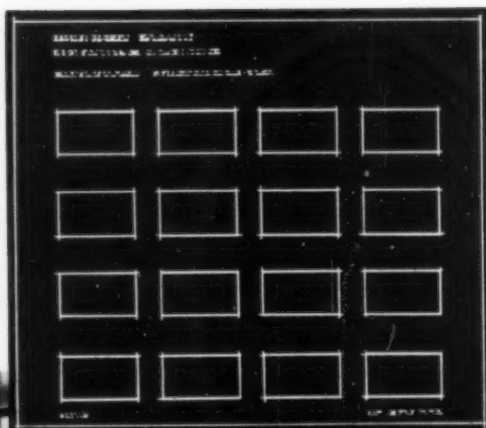
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### New Way to Fill Top-level Jobs

*Management employment consultants extend the 'catchment area' for talent*

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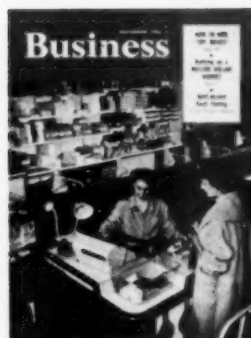
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Self-service for stationery stores is being pioneered by H. J. Ryman Ltd. at their Bond Street, London, branch. They feel it is the answer to peak shopping hours. The experiment is discussed in *Management at Work* on page 92.

**Change of subscriber's address:** Please notify Publishers six weeks before change of address is to take effect, giving present address in full and new address. BUSINESS, Vol. 86, No. 12 (incorporating "The Magazine of Commerce," "Modern Business," "System," "Business Organization and Management," "Business News Digest" and "British Industrial Equipment"). Published monthly by Business Publications Ltd., registered office, 180 Fleet Street, London, E.C.4. (Waterloo 3388). 40/- a year post free U.K. and overseas. Advertisement, editorial and sales offices: Mercury House, 109-119 Waterloo Road, London, S.E.1. (Waterloo 3388).



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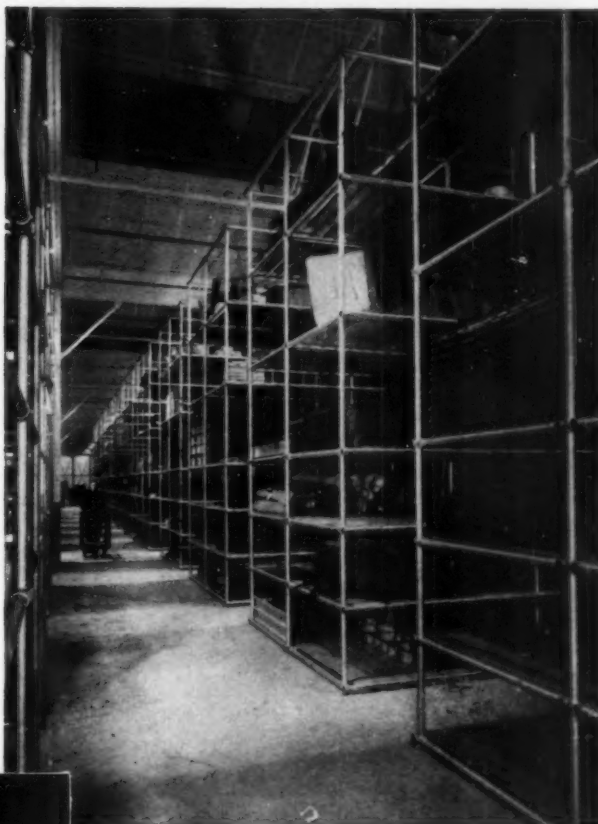
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DECEMBER, 1956



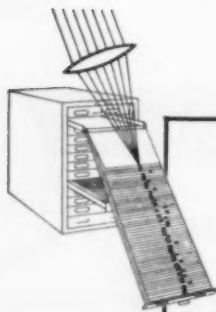
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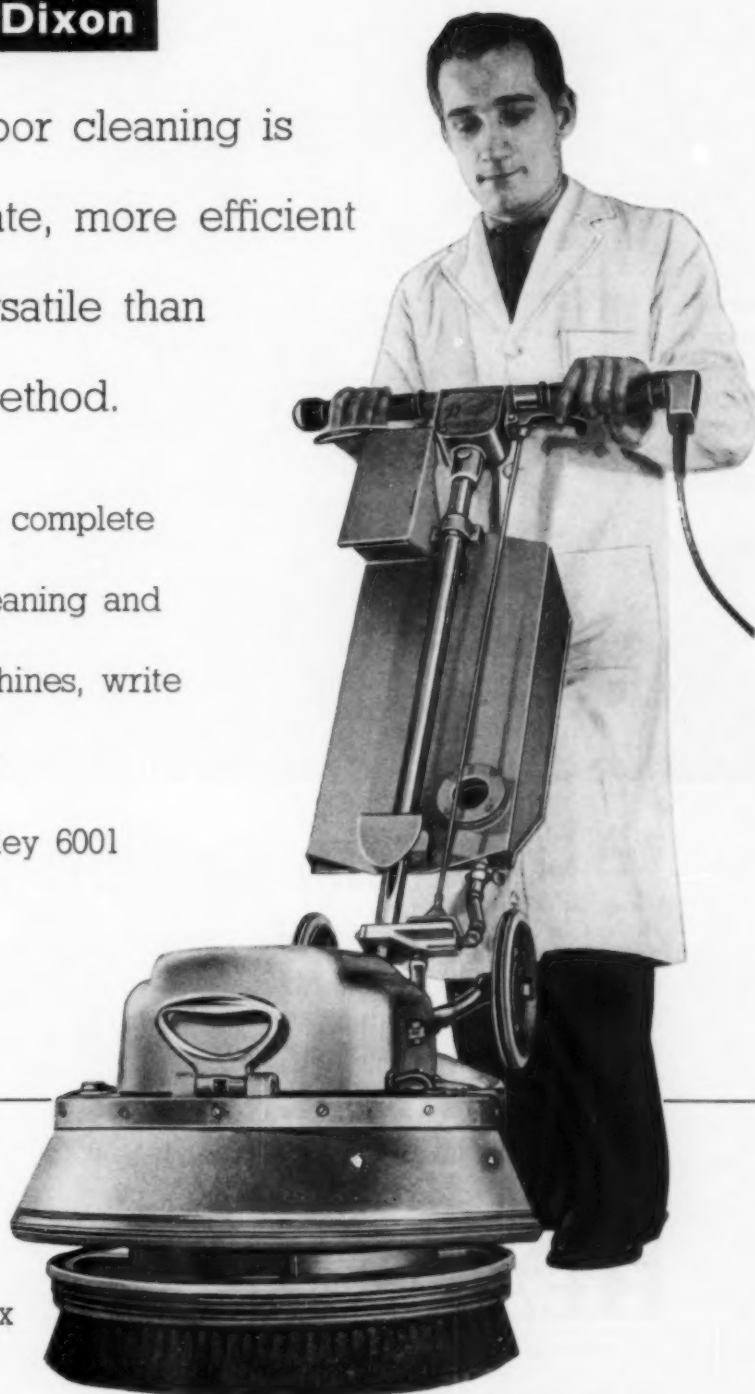
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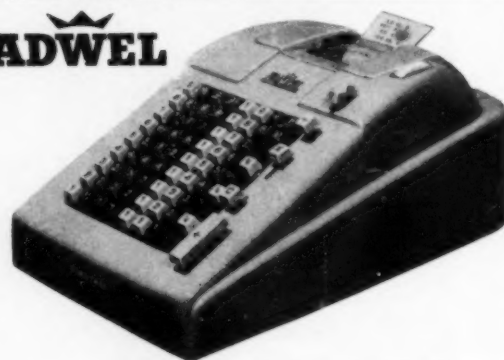
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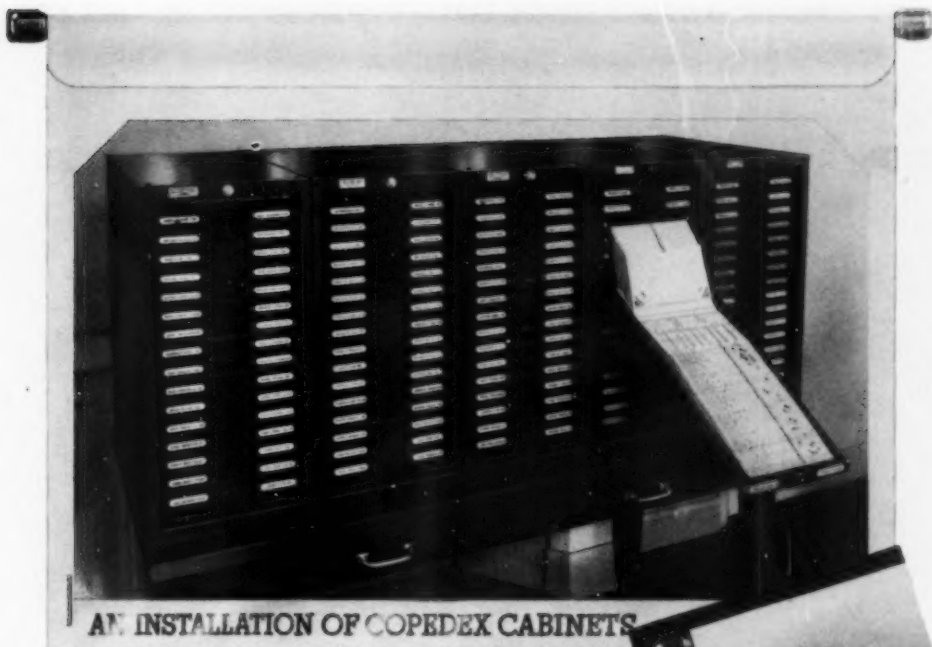
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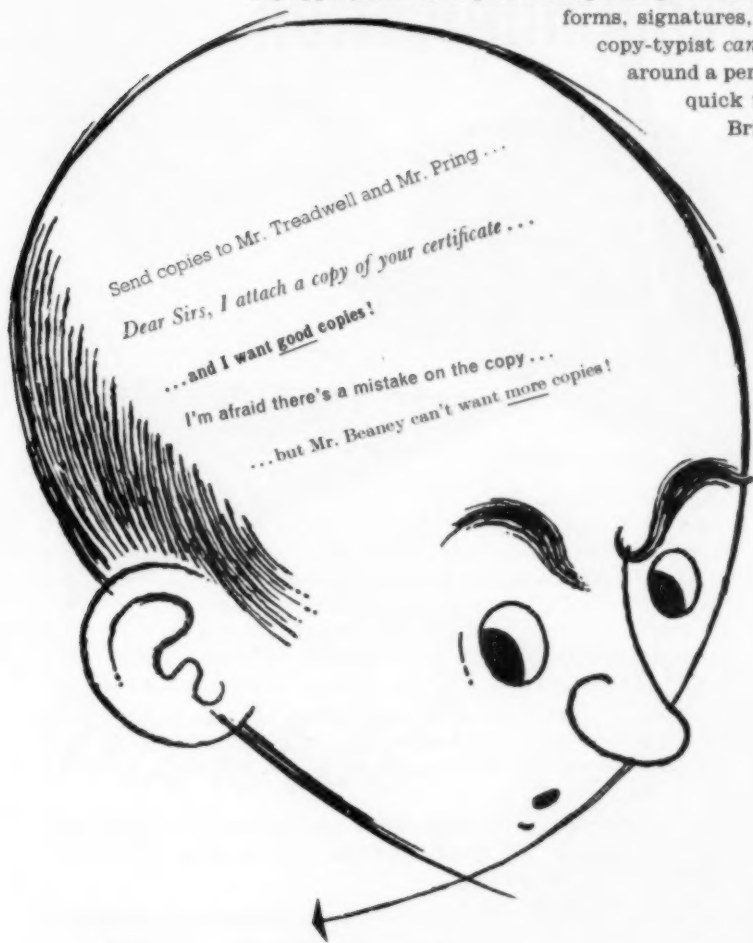
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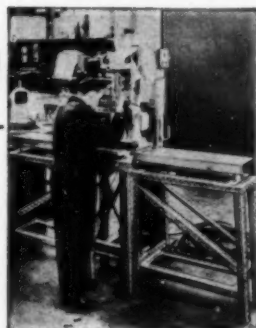
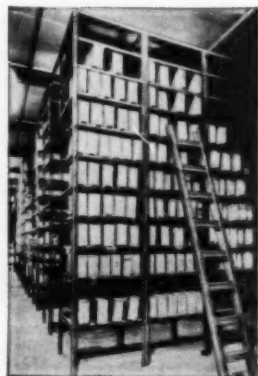
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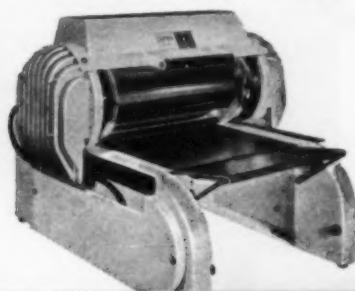
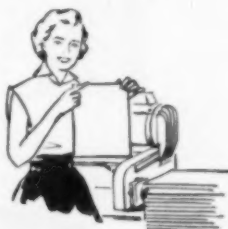
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to obtain intense-line, fade-resisting prints without special skill. With the Azoflex Model K.10 Mark II Printing Machine shown here, for example, exposures are automatically controlled by means of the built-in time clock.



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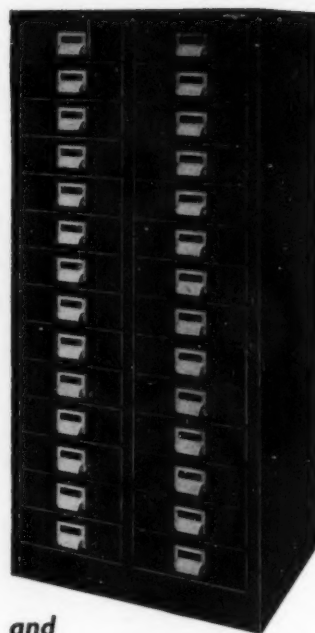


2 ft. 6½ in. high, 5 ft. wide, 2 ft. 10 in. deep.

Dark blue plastic top, with anodized aluminium beading. Four shallow drawers, one quarto filing drawer, two pull-out trays.

Automatic locking gear. Finish: stove enamelled olive green or metallic grey, anodized aluminium handles.

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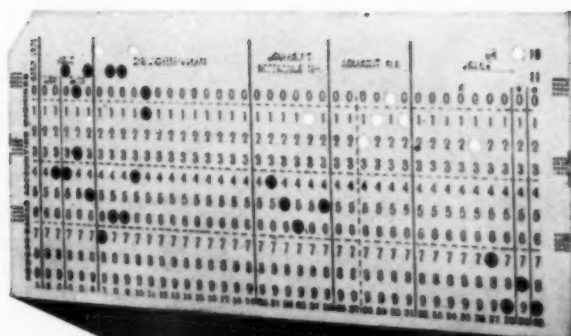
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to collect your money?**

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Fine stationery, free from superfluities, crisp and well balanced, can do much to enhance the prestige of your Company

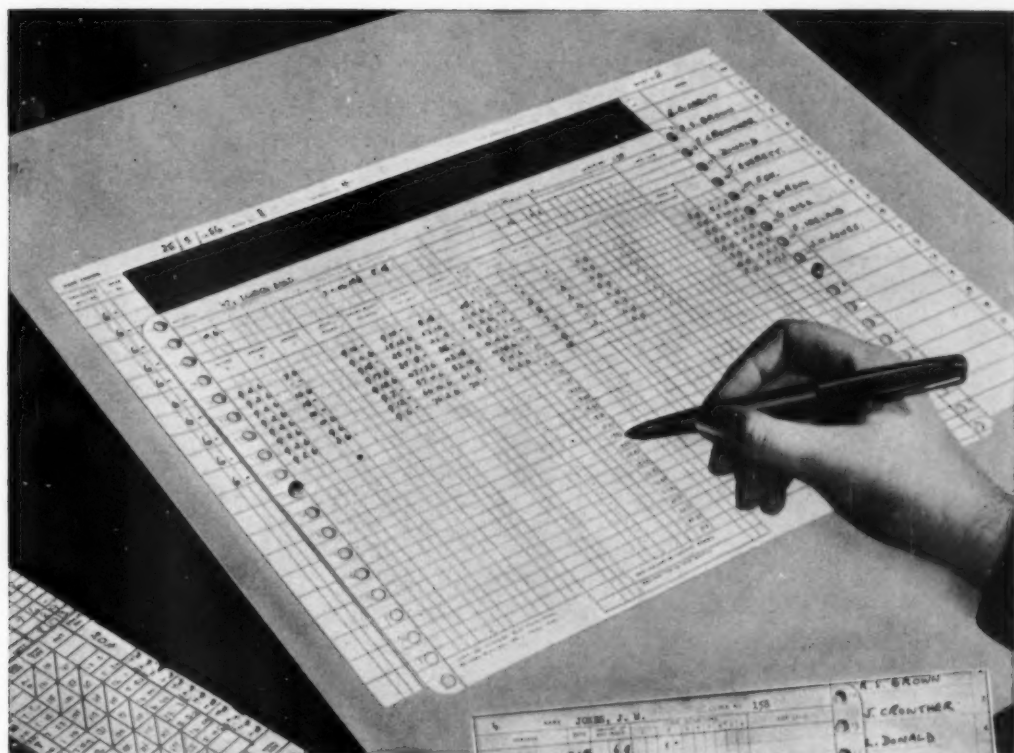
And where long life, resistance to handling and a good appearance are essential, there can be only one answer — a rag-content tub-sized air-dried paper whose specification is guaranteed by the symbol of the British Stationery Council.

Before re-ordering, ask your Printer to show you a selection of these fine papers — for “on good paper one thinks better”

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no matter how loud the clamour of denial.  
That which deserves to live, lives.”*

*Issued by the*

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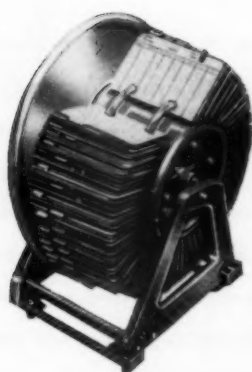
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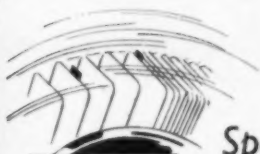
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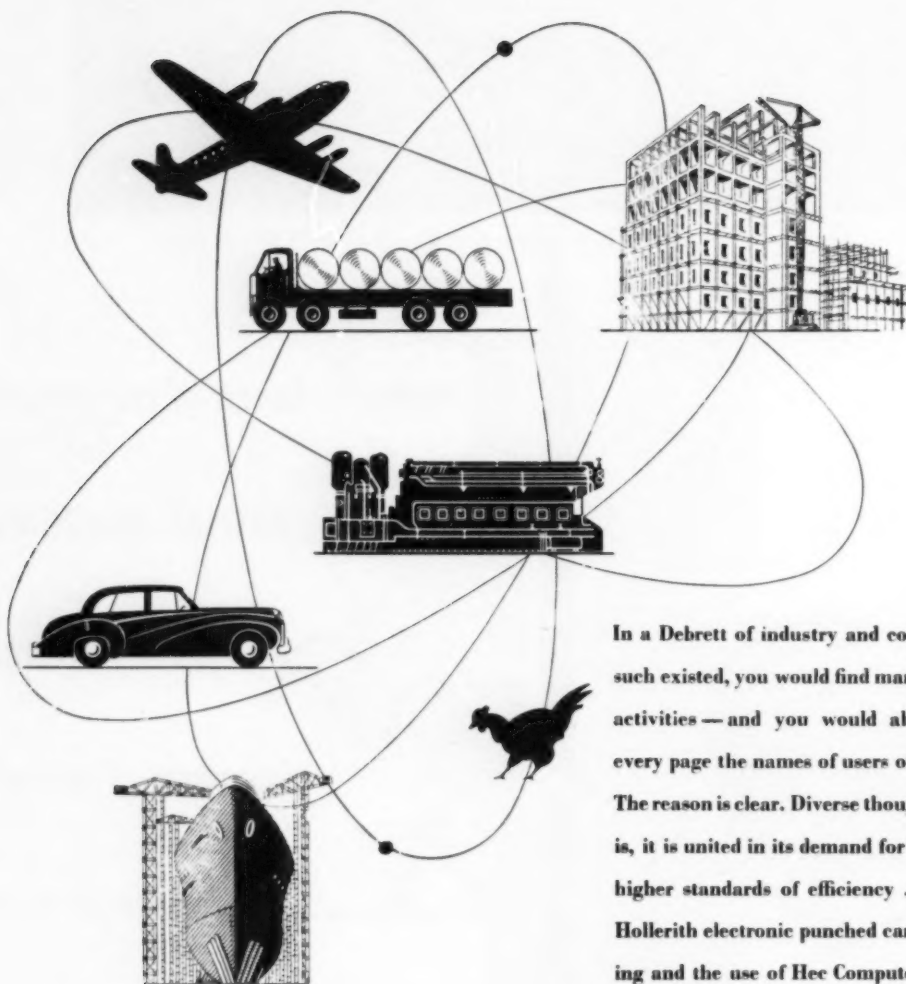
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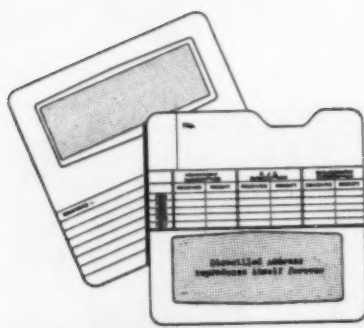
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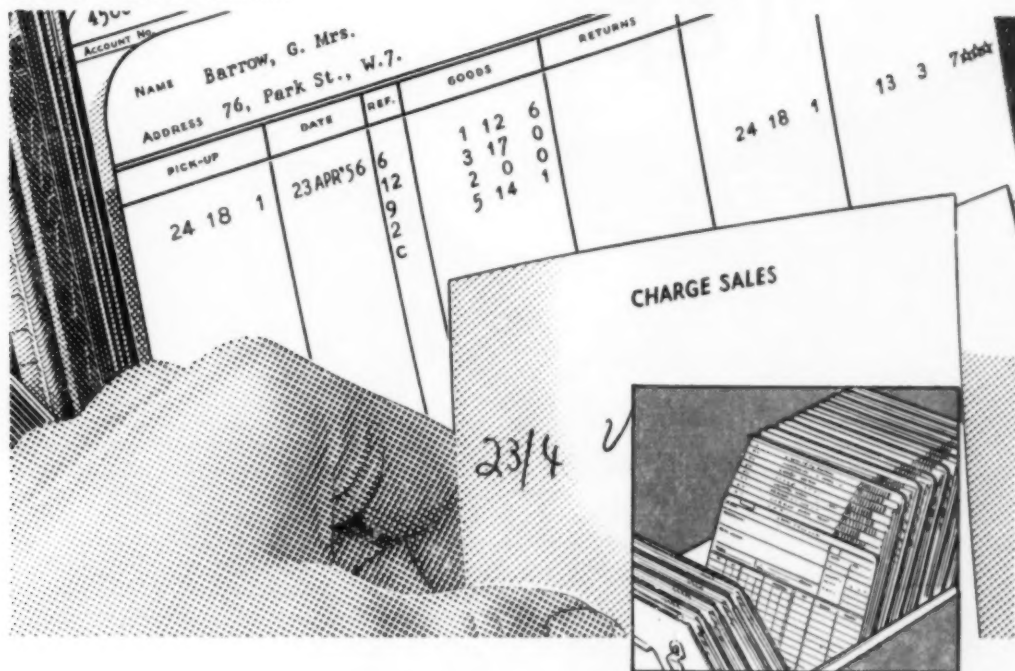
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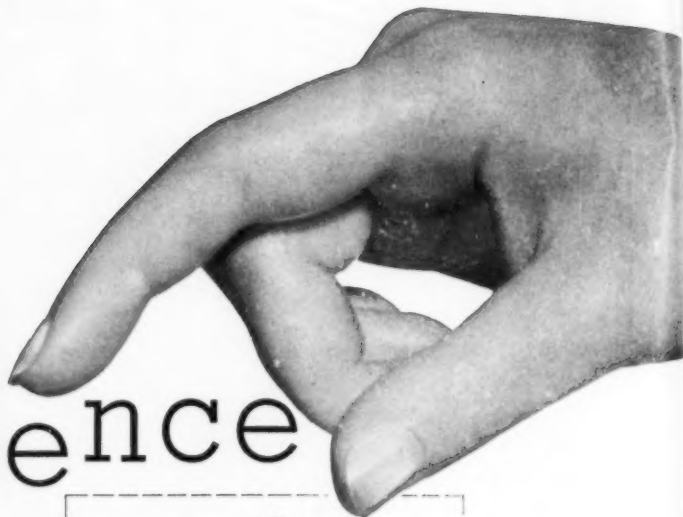
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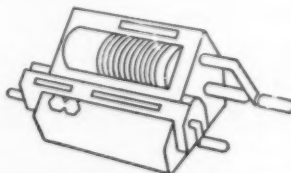
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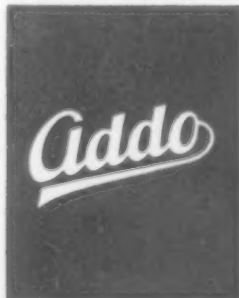
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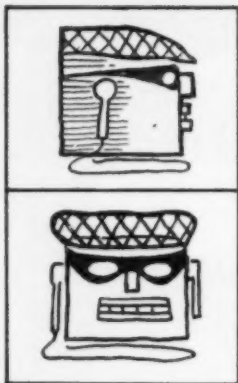


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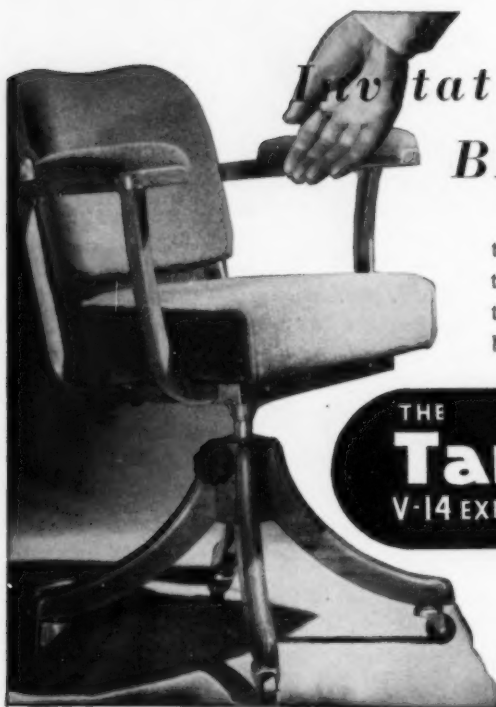


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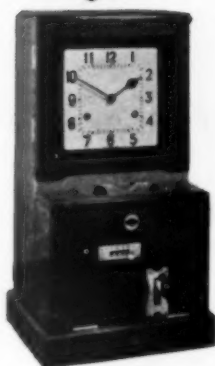
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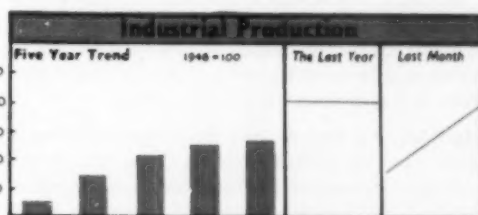
## THE FINANCIAL TIMES

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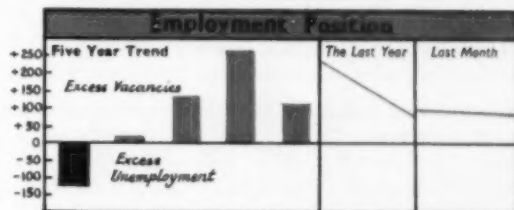
# STATE OF THE NATION

**Prospect of rising output delayed by Middle East crisis • Unemployment may increase in some areas • American boom continuing • Overseas trade should remain buoyant • Gold reserves under strain, due to Suez crisis • Factory building and re-equipment boom definitely past the peak • Home building also declining • Retail sales holding up well • Hire purchase also confounding the credit squeeze • Next wage round should be moderate • Government expenditure up slightly • Bank deposits and advances somewhat higher • Price plateau likely to continue • General economic stability will cloak many ups and downs**

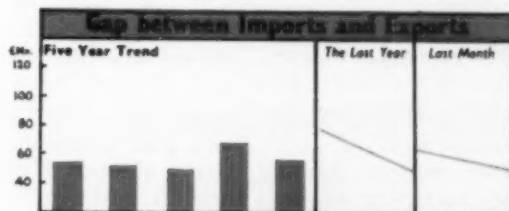
**Industrial Production** is likely to be held in check by the fuel oil shortage, but should surge ahead next summer. During July to September this year, the average index was 127 (1948=100). This was only 1 point higher than a year earlier but 22 points higher than four years earlier. Provisional September 1956, figure of 139.40 is virtually the same as 140 a year earlier.



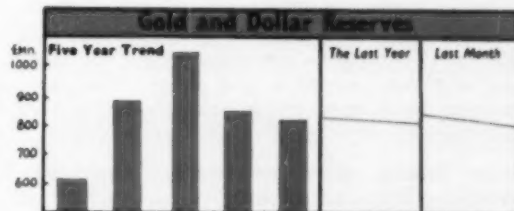
**Job Vacancies** are not now so very far in excess of the number of unemployed. Average excess vacancies during July to September, 1956, were 113,000, a substantial fall on the average of 252,000 a year ago. Thus the boom is well past. But four years ago the number of unemployed exceeded the number of job vacancies by 123,000. So we are still a long way above the position in the 1952 recession. In October this year the number of unemployed was 254,000, an increase of 6,000 on September.



**Gap between Imports and Exports** is still not alarming. During August to October this year, average monthly gap was £57.1 million—a notable fall on £66.0 million a year earlier, and not far above the £56.5 million four years earlier. In October this year, the gap was £46.7 million, which compares with £63.7 million in September and £78.8 million a year earlier.



**Gold and Dollar Reserves** are suffering from the Suez crisis. During August to October this year, average level was £816 million, which was less than the £845 million a year earlier, but more than the £610 million four years earlier. Peak year was 1954. Between September and October this year reserves fell £28 million to £803 million, due to the Suez crisis.



**THE CHARTS:** Except where otherwise indicated, each bar chart depicts the average monthly value of a particular statistic during the most recent three months, and compares it with the same figure for each of the four preceding years. The earliest year in each case is shown on the extreme left. Under the heading "The Last Year," a straight-line graph depicts the latest month of a particular statistic and compares it with the same month a year earlier. And under the heading "Last Month," the most recent figure is compared with the one for the previous month. In both cases, the earlier figure is to the left and the later figure to the right.



# MAIN ECONOMIC INFLUENCES on the STATE OF THE NATION

## 1. Trends in CAPITAL EXPENDITURE

**Industrial Investment Plans** are still at peak levels, but beginning to decline. Bars in the accompanying chart show average quarterly expenditure for years 1952 to 1956. The 1956 average is expected to be about £446 million, an increase of 21 per cent on 1955 and an increase of 59 per cent on 1952. Provisionally, the Board of Trade survey shows that 1957 capital expenditure may be slightly lower than 1956. In the second quarter of this year, expenditure by manufacturing industry was 26 per cent higher than a year earlier.

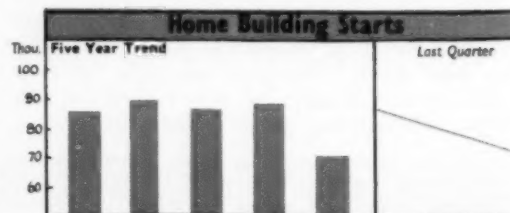
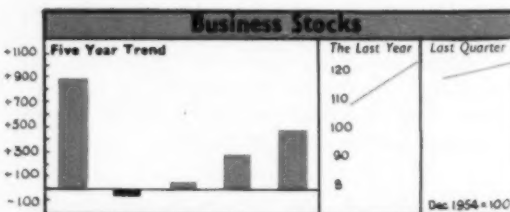
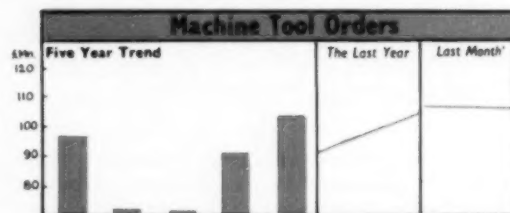
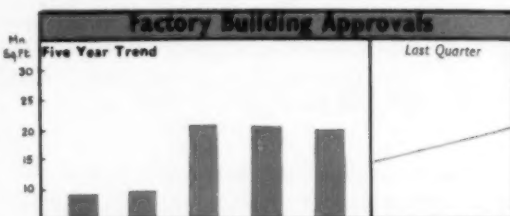
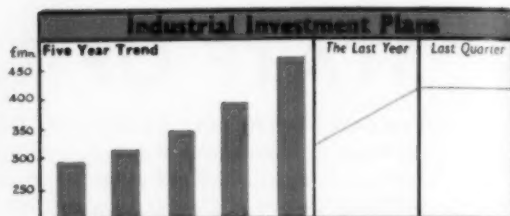
**Factory Building Approvals** are fairly steady when measured by area, but down in number. During the third quarter of 1956, total area approved was 20.0 million sq. ft. which compares with 20.7 million a year earlier and only 8.7 million four years earlier. Number of approvals in third quarter this year was 550, a decline on the 640 in second quarter, but area approved rose from 14.3 million sq. ft. to 20.0 million.

**Machine Tool Orders** have lately declined from their peak. Average volume of orders on hand during May to July, 1956, was £104.8 million, a considerable increase on £91.5 million a year earlier and also on £97.0 million four years earlier. In July 1956, volume of orders on hand was £104.6 million—equivalent to over 13 months' deliveries. But orders in July were only £7.7 million, as against £9.6 million last February.

**Industrial Hire Purchase** is still fighting back against the credit restrictions. The accompanying chart is based on figures collected by Hire Purchase Information. Average monthly H.P. contracts for new cars and commercial vehicles in August to October, 1956, was 10,900 a decline on 13,400 a year earlier but a great increase on 3,500 four years earlier. The Board of Trade index for H.P. financing of industrial plant and equipment was steady at 85 in August and September this year. It was 123 last January.

**Business Stocks** have lately risen in manufacturing industry and fallen elsewhere. Bars in the chart show changes in value of stocks during the years 1951 to 1955. Graph lines show changes in the index of manufacturing stocks compiled by the Board of Trade. Manufacturing stocks index for the end of June, 1956, was 121 (1954=100), which compares with 117 at the end of March and 108 a year earlier. Non-manufacturing stocks index (December, 1954=100) was 107 last December, 97 in March this year and 94 in June.

**Home Building Starts** have declined considerably. Permanent houses started in the third quarter of 1956 totalled 70,407, compared with 87,787 a year earlier and 85,600 four years earlier. Number under construction at September 30, 1956, was 281,864, or a slight fall on the 296,127 a year earlier.



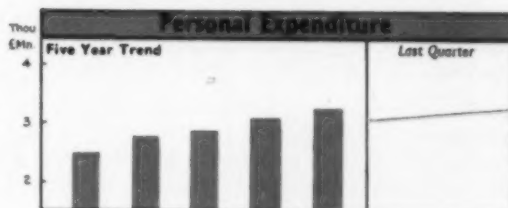
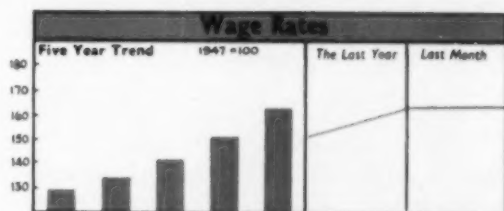
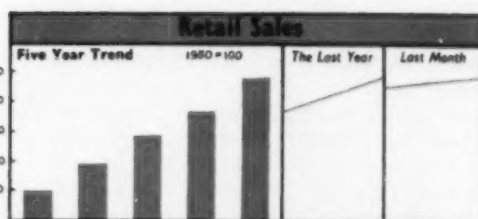
## 2. Trends in CONSUMER EXPENDITURE

**Retail Sales** are increasing slightly more than seasonal average. During July to September, 1956, the average index of retail sales was 148 which compares with 137 a year earlier and 110 four years earlier. Allowing for price increases, the volume of sales has grown slightly in the last year. In September this year the index was 148 which compares with 143 for August and 136 for September last year.

**Domestic Hire Purchase** has grown somewhat recently, in spite of restrictions. The accompanying chart shows the trend of H.P. sales of used cars. Average monthly number of contracts during the period August to October, 1956, was 28,800—a considerable decrease on 34,000 a year earlier but much greater than the 9,800 four years earlier. The Board of Trade index for H.P. sales of domestic equipment rose from 67 to 77 between August and September this year. It was 69 last January.

**Weekly Wage Rates** will no doubt rise in the New Year, but probably by no more than 3 to 5 per cent. In the period July to September this year, the average index of weekly wage rates was 165, which compares with 153 a year earlier and 130 four years earlier.

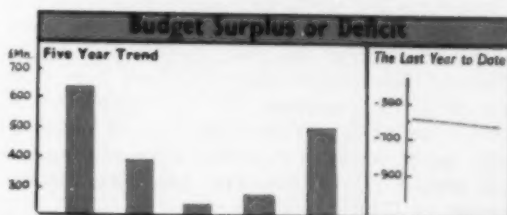
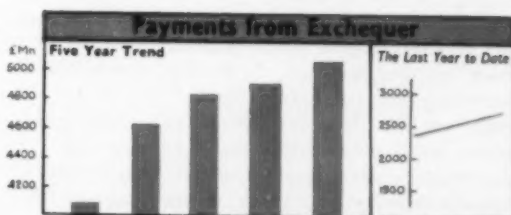
**Personal Expenditure** is barely keeping pace with price increases, and is not a major inflationary factor. In the second quarter, it was £3,305 million, as compared with £3,122 million a year earlier and £2,596 million four years earlier. This represents an increase in spending of 6 per cent in the last year and 20 per cent in the last four years. But prices have risen similarly, so that real spending power has been fairly constant.



## 3. Trends in GOVERNMENT EXPENDITURE

**Payments from the Exchequer** are so far this year running at more than £300 million ahead of the same period last year. The Suez crisis will continue to aggravate expenditure for many months. Between 1951 and 1955, Government expenditure increased by 25 per cent and prices rose by 19 per cent, so that expenditure in real terms rose by 6 per cent. Original Budget estimate of expenditure in the current financial year was £4,683 million. From this must be subtracted Mr. Macmillan's £100 million cuts, but to it must be added some of the cost of Suez.

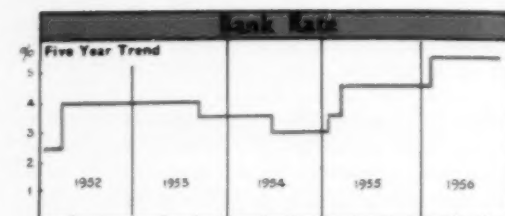
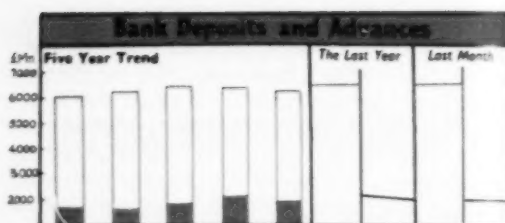
**Budget Deficit** so far this year is about £70 million more than at the same time last year. The accompanying chart shows the Budget surpluses in calendar years 1951 to 1955. These are the above-the-line surpluses. The graph line compares the current financial year with the previous one. This financial year's above-the-line surplus is expected to be £484 million.



#### 4. Trends in MONETARY AND FINANCIAL POLICY

**Bank Deposits and Advances** have both recently increased. During August to October this year, average level of bank deposits was £6,300 million. This was a slight decrease on £6,400 million for the same period of 1955, but a rise on £6,100 million for the same period of 1952. Bank advances this year during August to October were at an average of £1,900 million, a decrease on the £2,000 million a year earlier but a rise on £1,700 million four years ago. In October this year deposits rose £106 million to £6,376 million, and advances rose £2 million to £1,862 million.

**Bank Rate** has now been steady at 5½ per cent for over nine months. The accompanying chart shows the movement of Bank Rate since the beginning of 1952. In March of that year, it was raised from the long-standing rate of 2½ per cent to 4 per cent. It later went down to 3 per cent but it is now 5½ per cent.



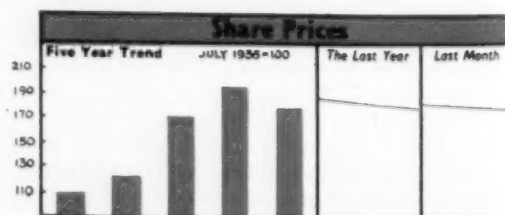
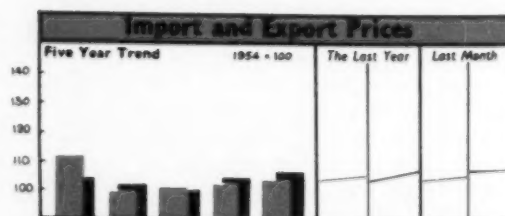
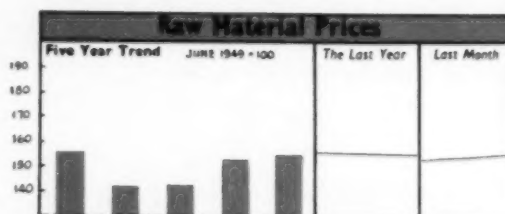
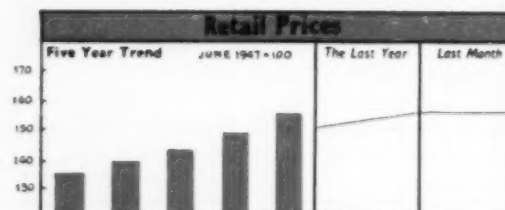
#### 5. Trends in MARKET BEHAVIOUR

**Retail Prices** have been fairly steady for six months. In the period July to September this year, average level of the old retail price index was 157, which compares with 150 a year earlier and 137 four years earlier. The index for October this year was 108, or 1 point above September and 6 points higher than a year earlier.

**Raw Material Prices** are likely to move upwards in the near future. Average level of the index of basic materials used in non-food manufacturing industry, during the months August to October this year, was 156.1. This compares with 155.2 a year earlier and 155.2 four years earlier. In October this year, the index was 155.4, a fall of 1.7 points on September and an increase of 2.3 points on a year earlier.

**Import and Export Prices** have lately risen slightly. During the three months July to September this year, average level of the import price index (1954 = 100) was 103, or 1 point higher than a year earlier but 9 points lower than four years ago. In the three months July to September this year, average level of the export price index was 106. This was 3 points higher than a year earlier, and 2 points higher than four years ago. In October this year the import price index rose 2 points to 106, and the export price index remained steady at 107.

**Share Prices** have on the whole sagged about 4 per cent as a result of the Middle East crisis. During the period August to October this year, average level of the *Financial Times* index of industrial ordinary share prices was 180.7. This represented a big fall from the level of 194.6 a year earlier, but a large rise on 114.6 four years ago. In the middle of November this year the index was around 171, or somewhat below the October average of 178.1.





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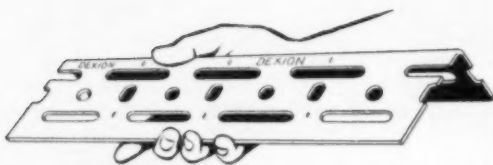
Dexion keeps its simple, scientific design, but now has even greater adaptability. In factory, shop and

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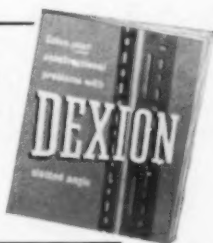
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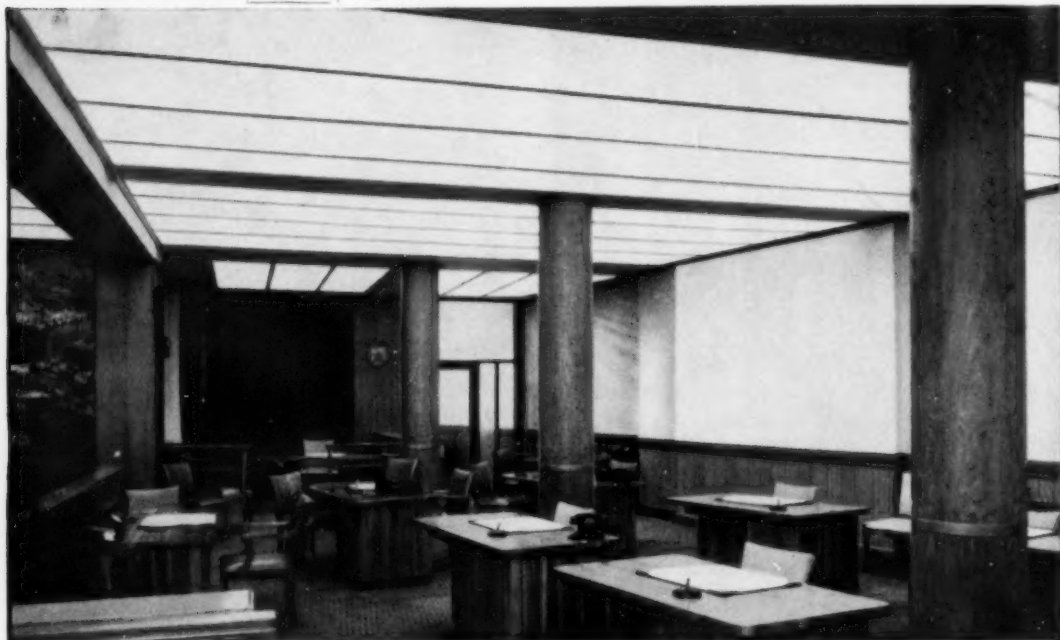
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# HOME MARKET SURVEY

*A Round Britain Survey: Regional Notes on Markets and Industrial Developments*

## WALES

**D**ESPITE recent increases in unemployment, the Principality's long-term industrial outlook can be considered hopeful because of the large-scale projects either under way or pending. Two major oil schemes are to be put in hand at Milford Haven. The British Petroleum Co. are to build a £5 million tanker terminal at Popton Point, nearly opposite Milford Docks, which will be capable of berthing super-tankers of up to 60,000 tons. A 60-mile long, 18in. underground pipeline will carry oil from the two-berth terminal to the company's Llandarcy refinery, near Swansea, and will have an annual throughput of about 5 million tons of crude. The project will take some three years to complete.

Esso Petroleum Co. are to establish on a 1,000 acre site near Milford Haven a £20 million oil refinery and tanker terminal with a capacity similar to that of Fawley and employing 2,000 workers. The installation will be among the largest in Europe, and berths are to be enlarged to take 100,000-ton tankers. Construction work will take over two years. Another concern who are contemplating the erection of a U.K. refinery, Gulf Oil of Pittsburgh, are currently considering possible sites in South Wales.

Plans are being discussed for the construction at Milford Haven of docks for 100,000-ton tankers. The cost is estimated at £13-15 million. The Atlantic Shipbuilding Co., Newport, who are now completing an order for the Canadian Anticosti Shipping Co. in their new yard which specializes in welded construction and prefabrication, have secured a £2.5 million contract to build four cargo ships for the Government of Cuba. Each of the vessels will be of 4,100 tons and work on the first has started.

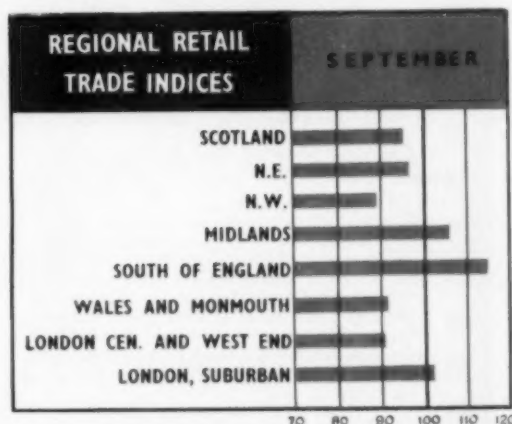
Comment on the need for extensive modernization of South Wales ports, if improved trade is to be realized, was made at the annual general meeting of Mountstuart Dry Docks Ltd., Cardiff. The chairman, Sir Llewellyn Soulsby, declared: "It is a sorry commentary on nationalization when ports such as Cardiff, Newport and Barry have remained generally undeveloped since they were taken over six years ago, except for some iron ore cranes at Newport, because those in control of policy declare they cannot afford the necessary expenditure."

Output from the Steel Company of Wales' new cold reduction mill at Velindre is gradually increasing, and next year some 200,000 tons of tinplate should be

produced. This figure should rise to 375,000 tons in 1958 and later to around 450,000 tons annually. Production at Trostre and Ebbw Vale is expected to be 420,000 tons and 270,000 tons, respectively, in 1957, and indications are that total U.K. tinplate output next year will be 25 per cent higher than this year. Output from the handmills is expected to rise to 300,000 tons in 1958, but the opening of the Velindre plant is likely in time to affect their profitability.

Since the war the British steel industry has been increasing production by nearly 1 million tons a year, but shortages are still being felt and the position in South Wales was recently discussed with Sir Archibald Forbes, chairman of the Iron and Steel Board, by a deputation representing South Wales Switchgear, the Briton Ferry Steel Co., T. C. Jones and Co. and the Industrial Association of Wales and Monmouthshire.

Work is now beginning on the Steel Company of Wales' third development plan designed to increase output of steel ingots at Margam from 2.4 million to 3 million tons a year by 1960. The company have already spent £127 million on expansion projects and the new scheme will involve expenditure of £48 million over the next four years. Weekly pig-iron capacity will be raised to 40,000 tons, steel capacity to 60,000 tons and hot-rolled coil capacity to nearly 50,000 tons. A fifth blast furnace—equal in size to the largest at



The vertical line at 100 represents the national average level of retail trade for the latest month (September). Against this average the performance of each region may be measured

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## ECONOMIC PROSPECT

present in operation anywhere in the world—is to be built beside the fourth blast furnace which was opened at the beginning of the year, and to supply it 80 new coke ovens are to be erected.

A £7 million contract for the main **civil engineering** work involved in these extensions is being undertaken by Sir Robert McAlpine and Sons

The blast furnace is to be built by Ashmore Benson Pease and Co. and the coke ovens by Simon-Carves. A £2 million marshalling yard is to be built at Margam by the British Transport Commission to serve the works and accelerate movement of traffic to and from the west.

The use of **oxygen** in steel making is increasing. In August the first tonnage plant to be installed in the U.K. with a capacity of 100 tons of oxygen daily was brought into operation on a site near the Margam works. Costing approximately £1 million, it was built by the British Oxygen Co. who are now completing a 200-ton a day plant on the same site for the Steel Company of Wales.

Other major steel schemes still under consideration include a Richard Thomas and Baldwins strip mill and a steelworks by the Guest Keen group. This latter may be built on a 230-acre site at Pengam Moors, Cardiff.

Work has already begun on the Barry site of the Distillers Plastics Group on a new British Geon plant for the production of **nitrile rubbers**. Extensions to the company's factory earlier this year will enable productive capacity of Geon polyvinyl chloride to be raised to 27,000 tons annually. When the works were opened in 1948, capacity was only 6,000 tons a year. Monsanto Chemicals' new £500,000 Newport plant for the production of **butadiene-styrene co-polymers** should be reaching full output early next year.

Sales of **silicones** from the new Barry factory of Midland Silicones are increasing and the company are undertaking considerable market development work.

A new **nickel** refining plant is being installed at the Clydach works of Mond Nickel Co. at a cost of £750,000. Operation of the new plant, which will carry out the final stage in the production of nickel, will be continuous, and it is to be housed in a new building. In connection with a reconstruction scheme being undertaken by Brymbo Steel Works Ltd. near Wrexham, three 40-ton Birlec arc furnaces have been ordered at a cost of over £300,000. They will replace existing open hearth plant.

Now completed at the Ammanford works of the Pullman Spring-Filled Co. are extensions totalling some 10,000 sq.ft., enabling the company to step up output of their **spring interiors** for mattresses and upholstery. By next March plant should be installed in the new factory which Pilkington Bros. and Chance Bros. are building at St. Asaph, Flintshire. Production





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**ECONOMIC PROSPECT**

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of spectacle and optical glass there should begin about the middle of next year.

Producers of specialized fastenings and mechanical and electronic instruments on the Treforest industrial estate, Simmonds Aerocessories Ltd. have been expanding their manufacturing and research facilities, covering some 70,000 sq. ft. An additional factory of 85,000 sq. ft. is to be built immediately adjacent to the main works for the production of a wide range of instruments.

Saunders Valve Co. are carrying out a progressive integration of their Newport and Cwmbran plants. The Cardiff works of Bristol Aircraft Co. are to be expanded, giving employment to some 3,000 workers. South Wales Switchgear Ltd. have completed a large extension at their Blackwood, Mon., factory, increasing their switchgear manufacturing capacity by approximately 60 per cent. Research and development work are being stepped up.

Brown, Lennox and Co., of Pontypridd, who earlier this year celebrated their 150th anniversary by opening a new laboratory building, are now installing at their works the largest mechanized chain-making plant in the world. It is due to go into production in 1957.

G. F. Lovell and Co., confectionery manufacturers, Newport, have carried out an extensive modernization programme involving the installation of new machinery and the development of the printing and box-making departments.

New electric furnaces have been added to the plant installed at the Courtybella works of the Whitehead Iron and Steel Co., Newport, for bright annealing coiled steel strip. Rustproof Metal Windows Ltd., Saltney, Flintshire, who are currently carrying out a five-year contract for continuous roller towel cabinets for a U.S. company, have devoted one of the new shops of a recent building extension entirely to this work and have prepared a complete layout to cater for this and similar contracts.

Efforts are being made by the Welsh Economic Development Council to secure the construction in Wales of an atomic power station and an atomic research establishment. At the new N.C.B. colliery at Cynheidre the second shaft has now been completed, but production will not begin before 1958.

The Llanelly and Mynydd Mawr branch line which serves the colliery is to be extensively improved. In Monmouth a £3 million project is to be undertaken, to enable underground operations at the Cwmtillery and Rose Heyworth collieries to be integrated, thus enabling reserves of 20 million tons to be economically worked for 32 years. Good progress is being made with a major reorganization scheme at Cwm Colliery, which has a proved area of coal of more than 150 million tons.

GL/12

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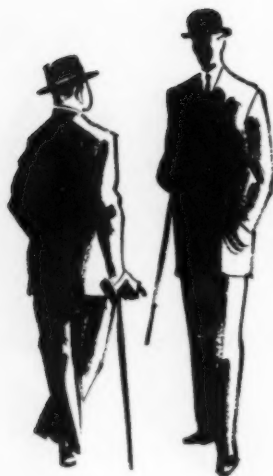


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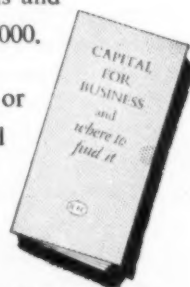




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# EXPORT MARKET SURVEY

*A Round-the-World Survey: Country by Country*

## GREECE

**A**T a time when several of this country's well-established overseas markets are experiencing rather more contractions than expansions, it is heartening to find a comparatively small country, of which not much might have been expected, proving, in fact, to be a fast-growing customer for British goods. The market in question is Greece, whose U.K. imports this year have been on a scale to demonstrate convincingly that trade can flourish despite political differences over Cyprus.

Last year, British exports to Greece amounted to £16.2 million; during the first nine months of this year they reached a figure of £18.8 million, a total particularly satisfying in view of the determined bid for business now being made there by our German and East European competitors. Among categories showing increases are machinery, ships, electrical equipment, engines and wool tops. British progress should continue, for the Greek economy has been showing marked signs of improvement.



Total imports have gone up by some 20 per cent, prices and the cost of living have remained fairly steady, the level of reserves is constant and the balance of payments—at mid-September—showed a surplus, after U.S. aid, of £15 million. Genuine, if slow progress is being made with the country's investment programme. The harvest this year has been excellent and, generally, Greek export prospects are bright.

Successes have been registered with two new industries—cement and cotton—which have now reached an annual export value of £10 million. Cement sales have been rising in the developing countries of the Arab world, where a specially strong Greek export drive is being made: at present the Arab countries are taking only about £2½ million of Greek products out of an export total of £65 million. A developing trade in citrus fruits is being done with East European states.

Industrial advances have been spurred by American insistence that U.S. funds, which for 1955-56 will total some £35 million, should be used for productive investment and not for filling in budgetary gaps. Mr. Frank Grismer, the new director of the U.S. Economic Mission, has recently stressed the importance of American private industry investing more in Greek development schemes, and the suggestion has been made that a special bureau be established to facilitate foreign investment.

Apart from the U.S., capital has so far come from Germany, France, Holland and Italy but much more will be needed over the next 10 years for substantial progress to be made in solving the twin problems of under-employment and a low standard of living.

Compared with the situation that the country had to face at the time of liberation in 1944, when the state machinery was paralysed, inflation was rife and the road, railway and communications network was shattered, Greece's present problems may not loom very large. But they are nevertheless real. In the past few months a number of hopeful steps have been taken. Budget policy has been overhauled and efforts are being made both to channel funds into productive investment and to promote saving.

In April the Prime Minister inaugurated a new financial policy designed to reduce banking costs and liquidate frozen credits. But although overseas investors have been granted concessions on taxes, transfer privileges on capital and profits and security against expropriation, the vexed question of foreign pre-war debts still remains as a bar to much potential large-scale investment.

On the economic side, much has been achieved. Three years ago Greece depended for nearly one-half of her imports on outside aid; today she is self-supporting, requiring assistance only for long-range economic projects and for military needs. Great productivity strides have been made both in agriculture and industry, but there is now need for urgent advances. Between 1953 and 1955 productivity increased by 4.7 per cent, but in the same period imports went up by more than 50 per cent. Recently two I.L.O. experts have made an on-the-spot study of ways in which improvements can be made.



One practical method is through the establishment of new foreign enterprises, bringing fresh techniques of operation. There are many openings, for Greece's resources are still largely untapped. There are chrome, nickel, magnesium and bauxite deposits, and considerable mining potentialities exist.

Three U.S. concerns are currently planning to exploit asbestos at Kozani, manganese on the island of Thasis and the 10 million ton iron ore deposits on the island of Tsouca. Boring for oil is being undertaken by the Greek-American Oil Corporation over a 400-acre area



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on the island of Zakynthos, in the Ionian Sea. Financed by German credits, Greece's first oil refinery is now under construction at Aspropyrgos in Attica, and should be on stream by the end of next year. Construction cost amounts to some £6 million and the estimated saving in foreign exchange is around £2 million annually.

Progress is being made with the £6 million plan to develop the lignite area of Ptolemais in Northern Greece, where the deposits are estimated to total 1,000 million tons. Finance is being provided by the Organization for Financing Economic Development, a private Greek concern, and the Krupp group, who, in addition to making available mining equipment supplies worth £5.5 million, are erecting a low-temperature carbonization plant, a 65,000 kW steam power plant and a briquette-making works.

Another major venture is the £2 million installation at Larymna for the production of iron-nickel. This is to form part of a large metal industry projected for the area from which it is hoped in time to earn up to £6 million annually from the export of products.

Lignite from Ptolemais will be used by a new plant which is to be built for the production of nitrate fertilizers. Cost will be around £8 million and the annual output of 74,000 tons will more than meet Greek needs.

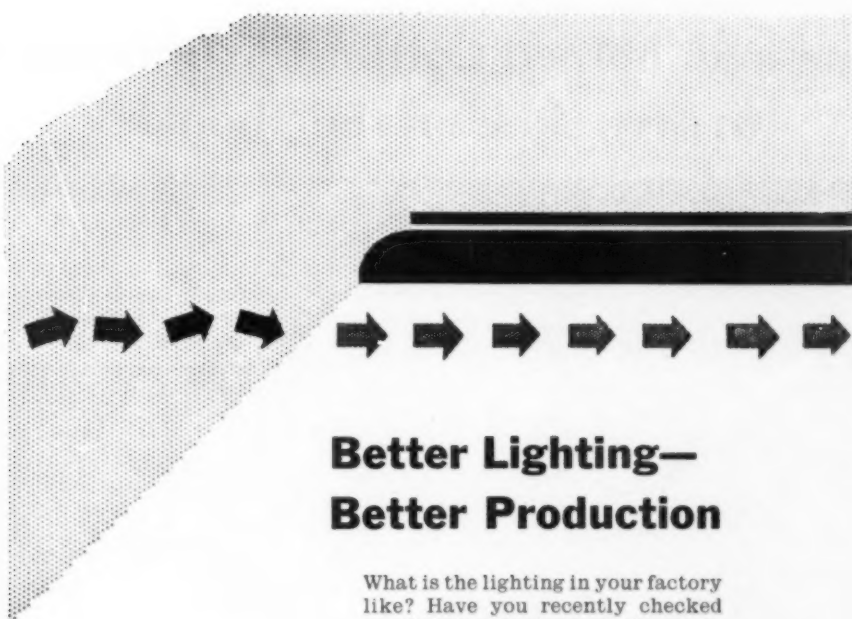
Expansion and improvement of the road and rail systems has been given priority. Rolling stock worth £2 million is required for the Peloponnese Railway and £6 million has been earmarked for an additional 500 miles of asphalt highway. Large-scale harbour works are currently being completed by the port organization at Piraeus, where traffic last year reached record levels. A shipbuilding and repair yard capable of docking vessels of up to 50,000 tons is to be constructed by Mr. Stavros Niarchos.

Ambitious plans have been formulated for extending the country's electric power network, and in the last fiscal year nearly £6 million was spent in expanding generating capacity. An 84,000 kW hydro-electric power station at present under construction at Megdova will produce 230 million kWh and is scheduled for completion by the end of 1958.

A £20 million hydro-electric scheme is projected at Acheloos. The Government are now in the process of taking over the 200 private power generating companies, including the British-owned Athens-Piraeus Electricity Co., an operation that will require years of negotiation and technical co-operation.

Tourism is a growing Greek industry, and a number of steps are being taken to promote it. Visitors have increased from 33,000 in 1950 to 196,000 in 1957. Eleven new hotels are to be erected at various centres.





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Issued by the  
British Electrical Development Association  
2 Savoy Hill, London, W.C.2

## One man helped Collins the publishers to save time on the "books"



*The Burroughs man, Mr. J. R. West, on your right, discusses with Mr. R. A. Jamieson, a director of William Collins, the new Burroughs system that brought them valuable up-to-date sales figures and eliminated unnecessary overtime.*

William Collins Sons & Co. Ltd., the well-known printers, publishers, stationers, and diary publishers, sell millions of books and stationery lines every year in Britain and overseas. Management must be kept up-to-date on the position of sales. A long-standing problem, however, was that staff had to put in long hours of overtime in order to get out the required figures. Even then, details were often available too late to be useful.

So Collins asked Burroughs' advice. The Burroughs man who tackled the problem was Mr. West—one of Burroughs' expert consultants on accounting methods. Together with members of Collins' accounts department he made a detailed study of the difficulties. The solution was found in a new system built round Burroughs Sensimatic accounting machines.

This proved so successful in the home market that

Collins have also applied it to export sales figures. Now there is no unnecessary overtime, especially on customer analysis. The management, with more comprehensive sales figures available, are making practical and advantageous daily use of this information.

**WHATEVER YOUR BUSINESS**, if you have an accounting problem, the Burroughs man can help you. He is an expert on modern accounting systems, and well able to work with your accountants or auditors. Backed by Burroughs' world-wide experience, he will make a full analysis and suggest the most economical, *workable* solution. If he thinks no change advisable, he will say so; if he does recommend a change, he will make a detailed plan and help you get it working smoothly. Call in the Burroughs man—you're committed to nothing. His advice is free.

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CALL IN THE **B**urroughs MAN



## MARCH OF BUSINESS

IDEAS AND ACTIONS OF FORWARD-LOOKING EXECUTIVES

### SHOW BUSINESS

**N**EARLY 400,000 people visited the Design Centre during its first six months—a much higher figure than originally forecast. They included many trade buyers from abroad.

The Centre seems to have proved conclusively that it means business in more senses than one. During the six-month period, over 11,000 trade and personal enquiry cards were filled in and passed to manufacturers.

Excellent results have been reported by a number of the firms whose goods have been exhibited at the Centre. One firm, who make lighting fittings, say that Design Centre publicity is responsible for the opening of six new accounts. They add: "This has been the most satisfactory form of advertising that we have so far undertaken."

Another firm report that home and export sales of one of their products have increased by five times since the Centre opened. Yet another report that they have received over 150 enquiries for a small furniture knob previously supplied to one main merchant dealing with architects; as a result this product is now being distributed much more widely.



*Britain's first Festival of Industrial Films is to be held at Harrogate in October next year. It will show how films are being used in industry, and will give sponsors and producers a chance to study outstanding productions from all over the world.*



### GOOD NEIGHBOURS

**G**EORGE Goyder, managing director of British International Paper Ltd., introduced a note of missionary fervour into the recent national conference of the British Institute of Management at Harro-

gate. He told his audience that "groups have their own methods of reaching a conclusion. . . . Collective attitudes are accumulated and passed on. . . . The community in which the worker lives affects his attitude to the whole of his work."

In the urban communities, workers had been conditioned by the ugliness of their surroundings, created by industry, to *expect* irresponsibility from employers. Their collective action was often one of accumulated suspicion and distrust and would remain so, however high wages went, until its source was removed.

Mr. Goyder added: "I would like to see a company set aside a proportion of its profits—not to pay bonuses to workers individually but to take a lead in assisting the local authority

in the provision of greater amenities. The city of Pittsburgh has been renewed in the past ten years by just such means; today it is one of the finest cities in the United States."

He pointed out that a 'good neighbour' policy could pay handsome dividends. In Pittsburgh, 56 acres of slums were cleared, and 70 per cent of this area turned into a park. But the rateable value of the new buildings on the remainder of the land was now 40 per cent higher than the former value of the total area of slums.



*A quarterly 'Export Guide' is now being published, free of charge, by The General Electric Company, Mag-*

## HIGHLIGHTS OF THIS ISSUE

- ▶ **When a firm are seeking the right man for a top executive post, a management employment service may save time and money . . .** Page 69
- ▶ **Even a 'traditional' product periodically needs new presentation gimmicks if it is to hold its own in the American consumer-goods market . . .** Page 77
- ▶ **Small firms cannot spend a fortune on getting reliable cost information. Short-cut methods . . .** Page 89
- ▶ **A high-speed camera sees much more than the human eye. It can help designers and engineers in many ways . . .** Page 83

## Next Month

**IS GERMANY GETTING AHEAD?** A familiar problem reassessed from an entirely new angle.

**PLASTIC TOOLING.** Plain-language guide showing how—and when—this rapidly developing technique can cut production costs.

net House, Kingsway, London, W.C.2. Available on request from the company's Economic and Marketing Research Unit, it gives in graphic form information about the export prospects of 36 groups of manufactured products in Britain's 34 major overseas markets.

★ ★ ★

## TECHNIQUE OF TELLING

WHEN explaining economic facts to workers it is essential to talk in figures which they understand in their daily lives. To the average man, £1 million seems a very large sum—right outside his personal experience. But £10 million does not seem ten times as great; it is just another very large figure. So an argument based on the difference between £1 million and £10 million leaves him cold.

This point was stressed by A. H. Snell, industrial liaison officer of the Economic League, when he spoke at the B.I.M. conference.

In Mr. Snell's opinion, most anti-profits talk is not aimed at the employees' own firm. Most workers have a strong loyalty to their own firms but are more suspicious of the vast economic system around them—the system which politicians often accuse of making millions of pounds in profits. Therefore it is even more important for a firm to try to explain the general economic system than to give detailed breakdowns of their own figures.

★ ★ ★

Almost 20 years after Dr. August Dvorak of Washington University patented his Simplified Typewriter Keyboard, the American General Services Administration has conducted an experiment to determine whether the Federal Government should adopt the 'new' system. Its verdict: No.

★ ★ ★

## ELECTRONIC EXPERIENCE

ABOUT 12 months ago, General Electric presented a 'Testimony on Automation' to the American

Government's Sub-committee on Economic Stabilization. Recently the company's public relations department published this statement of opinion and experience as a 20-page booklet.

One section deals with the effect on labour of the company's first big computer—the IBM 701 which their Aircraft Gas Turbine Development Department, Evendale, Ohio, installed in 1952. This machine has been used chiefly for engineering calculations.

When it was installed the department was employing approximately 30 young women on manual calculations. Three years later, they were employing 20 on manual calculations and 40 as computer programmers. The latter were more highly paid and highly trained than the 1952 employees. In addition, about 50 male employees were analysing and programming problems and operating the night shifts.

★ ★ ★

Say G.E.: "Computers are not a substitute for engineers . . . a glance at the New York Times 'Help wanted' ads will reassure you that the very companies who are using computers are the ones who are also increasing their engineering staffs. . . .

"Computers help to create so much more scientific information, and introduce so many more technical possibilities, that we need more engineers to put the new information to work. This is the pattern of the future . . . it is our feeling that these computer-derived technologies will be a major source of new employment in the coming decades."

In applying electronic computers to office work G.E. have learnt that there are "plenty of bugs to be ironed out." When a Univac system was installed at their Louisville Appliance Division in 1954, the company selected for 'conversion' four procedures involving substantial amounts of clerical and routine work; payroll, material, order service and billing, and general and cost accounting.

Originally they estimated that the payroll would be done in two hours

a week, and that all four operations would require about ten hours. But two years later, the payroll for 8,500 employees was actually taking 20 hours a week, and they had only just begun to tackle the other operations.

★ ★ ★

*New in London: a quick grooming service for the busy executive who anticipates an evening's entertaining. While he shelters, dressing-gowned, in a quiet cubicle, his clothes are whisked away, brushed, pressed, and returned to him—all in 15 minutes.*

★ ★ ★

## MEN APART

LEADERS and leadership—as defined by Lord Chandos when he addressed the Institute of Directors' annual conference recently:

"Leaders are people who are different from their fellows . . . to the extent that they are the same, they are not leaders. . . . The more talk there is about egalitarianism, the fewer leaders you will find.

"Leadership will always be ineffective if it is sectional or selfish . . . whenever some scandal is disclosed, whether it be a scandal about an expense account, or about a non-striker being sent to Coventry, leadership receives a blow. . . .

"It will also be ineffective unless it appeals to men's enthusiasm . . . it is not enough to put lucid and simple arguments in front of our fellow men, we must demand their enthusiasm."

★ ★ ★

*British portable typewriters are scoring big successes in overseas markets. During the first nine months of this year, the export revenue from machines weighing 22lb. or less rose to £789,959—nearly £200,000 more than in the same period of 1955—whereas the revenue from machines weighing more than 22lb. dropped from £2,048,636 to £1,967,765. Exports of all office machinery and equipment reached the record level of*

BUSINESS



# New dictating machine with **3** exclusive features

*Magnetic recording belt, versatile microphone, Redicta play-back machine—you find them only on the Baird Stenocord*

**N**EW! An office dictating machine, complete with all the latest trouble-saving extras, which is also completely portable. You can keep it as a fixed asset on your desk, or take it with you wherever you go.

Three more features put it ahead of all other dictating equipment: magnetic recording belt, versatile microphone and Redicta play-back machine. Only the Stenocord has these.

The Stenocord travels well: it weighs only 9 lb; it takes little space; and it is reliable. Its sturdy build stands up to the rough and tumble of travel, and sees it through long years of valuable service.

**In your car,** run the Stenocord on the battery with the aid of an adapter. Many sales representatives are finding that a Stenocord in their car enables them to fit in two or three extra visits a day, and cuts out evening work.

**On business trips,** you can post your recordings to your head office for transcription.

**During stock-taking,** several stores find a Stenocord with a long microphone lead enables them to do the job faster and more efficiently.

The Stenocord's controls are simplicity itself. Two buttons give you all the facilities for recording and listening back, for erasing, and for making corrections. There is also a volume control.

The secretary has a choice of headphones. Either the stethoscope headphone, which cuts out distracting noises from outside. Or the single earphone, which she should use

when she has to attend to visitors while she is transcribing.

A scale marked in minutes enables her to find her place on the magnetic recording belt. A foot-switch puts her in control of start,

stop and back-spacing. It leaves her with both hands free for typing.

Compare the Stenocord with any other machine, no matter how expensive, and see what a winner the Stenocord is!

## Magnetic recording belt.

It takes 12 minutes' recording (equal to 5 typed pages). It can be put in a file; sent through the post at printed matter rates; erased and re-recorded any number of times.



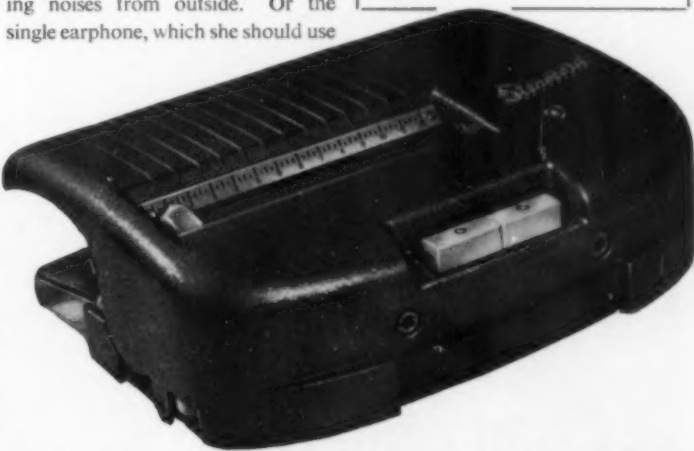
## Versatile microphone.

It fits in your hand or stands on your desk. It acts as both microphone and loudspeaker. And when you open out its backrest it acts as a conference microphone, and plays back with increased volume.



## The Redicta play-back machine

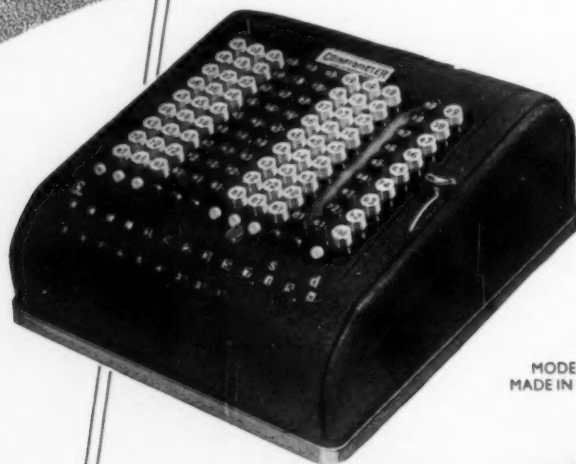
is an optional extra. For considerably less than the cost of a second Stenocord, it provides your secretary with *full time* transcribing facilities. She never needs to take your Stenocord away from you.





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nearly £18 million, an increase of £2 million on the total for the first nine months of last year.

★ ★ ★

## VICTORY IN SIGHT

THE Mentmore Manufacturing Company have scored another success in their five-year-old battle against Japanese producers of 'fake' *Platignum* and *Mentmore* fountain pens. For the Japanese government have now officially warned offenders that they must not infringe the British company's registered designs and trademarks.

Since 1951, the company have fought legal actions in many of their export markets. An outstanding victory was won last year, when the Lagos Supreme Court awarded them damages of more than £1,300 in an action against a Nigerian importer of cheap Japanese 'fakes.'

Following this case, strong representations were made to the British government. The official Japanese warning is the outcome of a protest by the British Embassy in Tokyo.

Arthur Andrews, the Mentmore company's chairman and managing director, comments: "I hope our success will encourage all British manufacturers of proprietary goods to persist in their struggle against Japanese copyists. We have proved that prompt legal action and a firm attitude by our own government can force the Japanese to behave responsibly."

## Letters

Sir,

As organizers of the British Industries Pavilion at the Brussels International Exhibition in 1958, we greatly appreciate your having given pride of place to a model of the pavilion on the front cover of your November issue. The key to illustration, however, referred to the Exhibition as "the 1958 Brussels International Fair," which naturally linked it with your excellent article on trade fairs in the same issue.

An international exhibition, properly so called, is a different form of

DECEMBER, 1956

# PEOPLE PRODUCTS PLACES 1

**OFFICE CHIEF**—Newly-elected president of the Office Appliance and Business Equipment Trades Association is G. L. Mercer, publicity manager of Lamson Paragon Ltd. He started his career with that firm as a private secretary more than 30 years ago; has already held several honorary posts in O.A.B.E.T.A.



**RIGHT ON TIME**—Westminster Bank Ltd. have ordered a number of these 'new look' *Salari* date-clocks for their branches. The clocks are all-electric, and contain a fully-automatic date-changing mechanism which even manages to take care of leap years.



**COMPLIMENTS OF THE MANAGEMENT**—Big smiles all round as Philip Copelin, Vauxhall Motors' managing director, hands out £450. The sum is the largest payment ever made under the firm's suggestion scheme. Since it began 14 years ago, 17,243 suggestions have been submitted, 5,413 awards made, and £26,000 paid out.

activity altogether. Its object is to convey a series of general impressions to a world audience, just as the Festival of Britain did to the people in this country: its influence on trade is bound to be considerable, but in itself it is not a forum for buying and selling.

The 1958 Brussels Exhibition is the first of its kind since the war; and, under the terms of an international convention regulating such exhibitions (but not trade fairs), there cannot be another in Europe for at least six years after that. Some 50 nations are taking part and it is expected to attract 30 million visitors from all over the world. By contrast with the Brussels International Fair mentioned in your article, which is an annual event lasting a fortnight, the exhibition will last six months.

The British site, one of the largest, will contain two pavilions—a Government Pavilion and the British Industries Pavilion depicted on the cover of your last issue.

The latter, we hope, will present a really impressive panorama of British industry and its contribution to the progress of the world. Several trade associations are arranging composite displays within it, and many individual firms are making their own contribution to the general picture; but there is still room for many more.

H. W. BAWDEN,  
*Federation of British  
Industries*

21 Tothill Street,  
London, S.W.1.

Sir,

★ ★ ★  
Having read your attack on Mr. Frank Cousins in the November issue of *BUSINESS*, may I say how surprised, even shocked, I am to realize that a journal such as yours can be so blindly prejudiced. There was nothing constructive in your remarks. As an executive, and one who does not believe in idealistic socialism, I would ask, must we ostracize the other fellow for daring to think differently, and in the case of Mr. Cousins, doing his job effectively?

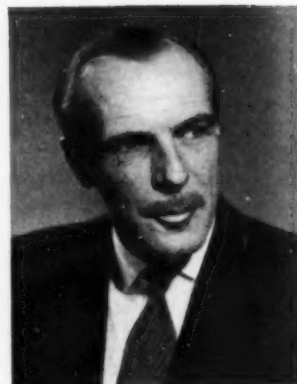
MICHAEL ADAMS  
*Westminster,  
London, S.W.1.*

## PEOPLE

## PRODUCTS

## PLACES 2

**CHEQUERED CAREER**—New general manager of Kosset Carpets Ltd. is globetrotter Barclay Inglis. Trained as a chartered accountant in Edinburgh, he became a director of the Wellcome Foundation, and for the last seven years has been on the board of a printing and packaging firm. He takes over the new job as Kosset are launching a big offensive for the tufted carpet market.



**CARS UNDER CANVAS**—Dispatch Motors Ltd., Ford main dealers, pitched camp in a London car park for six days last month to publicize their full range of Ford vehicles and accessories. There were working 'cut-away' models and anyone could come in for a look round, trial run and free refreshments. The show—not sponsored by Ford—cost more than £2,000.



**BEAUTILITARIAN**—Fountains and ornamental pools at Sylvania-Thorn's new Enfield, Middlesex, laboratories have a functional role too: the water is re-circulated, and cools the furnaces used in germanium and silicon crystal production.

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# TALKING POINTS . . . from the British

## Institute of Management's National Conference at Harrogate

**E**VEN in a small office containing, say, six clerks, there should be someone with the specific responsibility of recommending improvements in the organization and the clerical procedures.

The exact stage at which it is advisable to have a full-time specialist, or a specialist section, depends on the nature of the business. As a general guide I would say that a full-time specialist may be justified when the administrative and clerical staff amounts to more than 100, and that there should always be a specialist if the administrative and clerical staff amounts to more than 200.

*From a paper on Organization and Methods—Its Value to Management, by The Viscount Stopford, O.B.E., head of the office administration department, Imperial Chemical Industries Ltd.*



**W**HAT is the proper place of the public relations officer in the organization of an undertaking? My answer is quite clear: His place should be at the side of the chairman or of the board; he should know as much as possible about policy and intended policy; and he should be there to listen to the discussions which go on while the policy is being formed.

He should have a right to say his piece and support a proposed line of action or warn against it. He should not be left outside and then told to do his best when the policy decision has been reached. But he should not be a policy-maker: that is the management's job.

*From a paper on Management's Responsibility for Public Relations, by Sir John Elliot, chairman, London Transport Executive.*



**A**NOTHER factor which tends to handicap the accountant's progress in the management field is one which managers generally share . . .

lack of training in management theory and in management techniques.

This is a need which industrial concerns are remedying slowly in the case of production and sales managers, but so often the accountant is overlooked in any scheme for management training. Because the accountant works so closely with all the managers in the business it is even more important that he should obtain training in management on the widest basis. . . .

. . . The criticism that those who take up industrial accounting could dispense with much of the examination syllabus of the professional bodies is true. The fact that over 60 per cent of the members of the two larger professional accounting bodies in this country are working outside the profession indicates that sooner or later the appropriateness of the examination syllabus must be dealt with. . . .

*From a paper on Developing the Industrial Accountant, by W. R. Spencer, Urwick, Orr and Partners Ltd.*



**F**OUR years ago we had to install new equipment to increase the capacity of an ancillary process. At that time we knew of new equipment which was being experimentally tried in another mill, but we decided to 'play safe' and put in two larger units of the kind to which we were accustomed. The cost of these being £10,000, we looked on this expenditure as an insurance against loss of quality of the product until the experimental plant had been through its early troubles with the other company.

This year we had no qualms in scrapping our two units in favour of the new sort of equipment, which cost us about the same again.

*From a paper on The Economics of*

*Plant Obsolescence, by D. G. Petrie, vice-chairman, Star Paper Mills Ltd.*



**M**OST firms (of those approached during a pilot investigation into the cost of labour turnover) considered that they did not lose any sales as a result of labour turnover. Sometimes, however, delivery dates were affected or . . . overtime was worked to combat the effects. In one busy factory losses in sales occurred, and for a three-months period the total loss of profit was estimated to be £4,000. This factory employed only 418 people.

Another company, manufacturing parts for motor vehicles, reported that as a result of their inability to produce to schedule during the three-months period, loss in profit due to lost sales was £7,300.

*From a paper on How Much Does Labour Turnover Cost Industry? by R. L. Webster, chief personnel officer, Hoover Ltd.*



**I** TRY to impress on draughtsmen that every line they make with a pencil represents some fabricating operation. Treatment suitable for a sheet metal pressing is probably wrong for a die-casting or a plastic moulding. Naturally there are many processes which give the designer considerable latitude of form, but I suggest that it is not sufficient to draw a fashionable shape and then find out whether it can be fabricated. It is better that the shape should derive inspiration from the fabrication. Even when we need some relief or decoration, detail suggested by the craft is more likely to look right than the addition of a motif borrowed from current fashion. . . .

*From a paper on The Design Function—Gap or Bridge Between Sales and Production? by D. W. Morphy, joint managing director, Morphy-Richards Ltd.*

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# A New Way to Fill

## TOP-LEVEL JOBS

By WILLIAM GUTHRIE

*How can executive employment services—a new idea in Britain—help firms to find the best men for responsible posts? How do they work, and how much do they cost? To answer these questions, BUSINESS here surveys the operations of two services whose methods are fundamentally different.*

RECENTLY a company chairman said that for a year he had been seeking a manager for a new factory—at a salary of more than £4,000. He had had only a few genuine inquiries, almost none of them worth consideration.

Admittedly this is an extreme example, but it illustrates a serious problem that faces industry as a whole. In many firms new projects

—as well as the existing flow of business—are being hampered by the lack of suitable executives.

There are several ways in which individual firms can mitigate the effects of this scarcity on their own activities. One of them is the use of management employment services—a new development in Britain.

These services have been made available because industry seems to

consume managerial ability at an ever-increasing pace. 'Managerial' is a loose word, but for the purpose of this article it covers all positions from working directors with a seat on the board to departmental heads and their assistants.

What can an employment consultant do that a small firm cannot do well and a bigger one better? Surely most progressive firms select and train their own candidates for management succession?

The answers are short and simple. First, an employment consultant has advantages which an employer can never enjoy. He can choose from a much larger range of candidates than would ever come to the attention of one firm. He can make objective assessments of the requirements of the job and the qualifications of the man who would like to fill it. And the experience which he has gained in assessing men for hundreds of different posts is a valuable asset when a firm wants an executive to start or develop an activity with which they are unfamiliar.

To the suggestion that most firms have management succession policies the short answer is; they don't. The Action Society Trust reported earlier

this year that one-third of 50 large firms investigated by them had no management succession plans whatever. Another third had incomplete training plans; and only in the remaining third was anything like an adequate scheme in operation.

To illustrate this method of bringing candidate and employer together in the most convenient and economical way, BUSINESS has interviewed two consulting firms whose approaches are fundamentally different. With one, the employer is the paying client; with the other the candidate pays. Each has a long list of satisfied clients, almost all prepared to use its services again. Each helps its clients to beat the 'box number bogey,' which can frighten off many excellent job-seekers, and throws the cloak of anonymity over the personal details of the executive on the move.

The box number is convenient for firms anxious to hide their identities, salary scales, and staff changes. Prospective employees, on the other hand, want to 'see without being seen.' They hark after the chance to investigate an advertised vacancy without disclosing their identity. Consultants provide employer and candidate with the best of two worlds. Both can remain anonymous up to the final stage.

But in addition to acting as a proxy, the consultant performs the chores of advertising, interviewing and short-listing candidates—operations which can take up a lot of valuable time of chairmen and managing directors. Indeed, the time thus saved is frequently worth more than the cost of the service.

**Analytical Approach:** Management Selection Ltd. are young enough to measure their age in months. But already their clientèle includes dozens of firms of widely differing types and sizes. They are outstanding because of their immediate success, their analytical approach to the job, and their refusal to take for granted any aspect of a firm, a vacancy, or a candidate.

The idea of forming M.S.L. came to the chairman, Sir Walter Puckey, when he visited the United States a

few years ago. He founded the company with the aim of raising the interviewing and appointment of senior personnel to a new level of thoroughness and efficiency; in this he has been helped by H. E. Roff, former director of the Institute of Personnel Management, as managing director.

### Three Stages

M.S.L.'s work is divided, broadly, into three stages: assessing the firm, assessing the job, and assessing the candidate.

*Assessing the firm* is done during a personal visit, for which a nominal fee of 25 guineas is charged. No firm has ever resented this visit, or even hinted that the fee was not worthwhile.

Much, of course, is discovered about the client beforehand. A glance at a Moody's Economist index card, at the firm's last financial report, and at information supplied by the management themselves, provides many background details, including financial status, relative position in industry, turnover, and general organization. But the personal visit provides the general picture which facilitates the accurate matching of job and candidate. It is, therefore, a condition of the acceptance of the assignment.

The visit is like a management

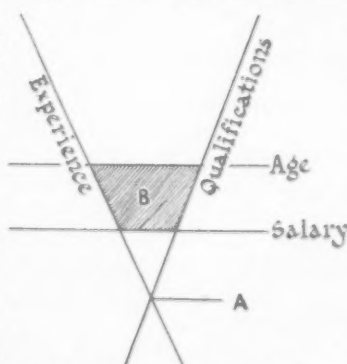
consultant's survey in miniature. The M.S.L. man may find out from the managing director exactly what sort of candidate he wants: qualifications, experience and personal qualities. But very often it is obvious after a few incisive questions, that the client does not know what he wants. He may be looking for a carbon copy of the man who has just left him, or of the excellent design director he met on a visit to another factory. Or he may be concentrating on the academic or professional qualifications he believes necessary for the job, subordinating important personal qualities such as the ability to get on with colleagues.

The M.S.L. man will meet the client's executives informally, often at lunch, and ask questions about the size of the company, production (batch or flow), number of customers, and the nature and structure of the management 'tree.'

*Assessing the job* is also done during the same visit, or as a result of it. Against this assessment, the press advertisement, if there is to be one, is composed with extreme care. Frequently it is found that the candidate needed is different in all respects from the managing director's specifications. Often the original duties can most conveniently be redistributed among other executives and a new man found, with different qualifications, for the tasks left over.

Frequently, too, M.S.L. are asked for their opinion as to the salary the job is worth. With their knowledge of the current salaries and working conditions of the candidates on their books, they are able to give an accurate estimate at once. When these details are fixed clearly, it is possible to proceed to the next stage.

Generally, recourse to the 'situations vacant' columns is the best solution. Yet even experienced advertisers rarely realize the importance of paying meticulous attention to the wording of an advertisement. The 'bait' must be skilfully presented to attract the right man from the right sphere. In wording their advertisements M.S.L. try to cast the net in charted seas, instead of at random, at the same time



The method by which M.S.L. trace the candidates on their punched-card index. The lines represent the selection rods. The ideal candidate would lie at the position indicated by A, if age and salary were not important factors. As it is, the candidates must be chosen from the area (i.e. the number) indicated by B



widening its mesh to allow the smaller fish to slip through.

The best way of illustrating this is to contrast two methods of advertising the same vacancy. The firm's version (unsuccessful) might read something like this:

Large engineering firm require works manager for new factory; must have personality and initiative and be able to take quick decisions on production problems; previous experience in executive capacity essential; age not over 45; graduate preferred; salary commensurate with responsibility; pension scheme; good prospects. Apply Box 1234.

This does not give any idea of the location of the works, or the sort of engineering. 'Personality' and 'initiative' are purely subjective terms; almost everyone claims these qualities. Quick decisions are the stock-in-trade of any production manager. The age-limit is definite enough, but might exclude an otherwise excellent man. Salary, pension and prospects are all couched in the vaguest terms. The general tone of the advertisement is "woolly" and indefinite. Finally the box number is sure to scare off many.

A little research by M.S.L. would probably produce the following:

Works manager required for light engineering factory in the Leicester area. Production (about 10,000 small components a month) is mainly for sewing machine and diesel fuel pump manufacturers, and is to the closest tolerances. The company itself is old-established, but the factory, which is 200,000 square feet, is only six months old; there are 1,200 employees.

Successful candidate would be capable of undertaking a steadily increasing volume of orders and production range, and of discussing problems with customers. Output mainly in small batches, with some ancillary glass fibre production. An engineering degree would be an advantage, but men with other engineering qualifications would be considered; in any case, experience in similar capacity would be essential. Probable age 40-50; starting salary about £2,000 to £2,500; non-contributory pension scheme. The appointed candidate would be likely soon to have an opportunity for senior responsibility, due to an impending retirement. No information will be passed on to our client except with permission of candidate at preliminary interview—Write, M.S.L. etc.

Assessing the candidate is the stage to which most research has been

## HOW SPECIALISTS CAN HELP

Executive employment consultants specialize in a type of appointment individual companies handle relatively seldom.

★

They are meeting men in big jobs every day and it is their business to know current salaries and conditions. Consequently they are in an excellent position to advise clients on such matters.

★

They can often produce a man straight 'out of the bag,' saving time and advertising costs.

★

They often know, more precisely than their clients, the aptitudes and qualifications required for a specific appointment.

★

The fee, if one is involved, is almost always less than the cost of advertising on a wide scale.

devoted. M.S.L.'s strength in this respect lies in the fact that they take no payment from, and owe no obligation to, any particular candidate. They freely admit that their investigations into the best assessment methods are far from complete, but they are doing their best to 'bring some science into the art of interviewing.'

### Hypothetical Ideals

Some firms are very bad at interviewing. The managing director and other individual assessors may measure a prospective executive against some hypothetical or sketchily built-up ideal, based on personal experience rather than careful foresight into the demands of the vacancy.

Except in the very large firms where there are selection boards working to a plan, there is a tendency for appointments to be made by one man.

This does not happen at M.S.L., where particular care is taken that no one man should recommend any candidate to the client. Their method is to send all promising respondents

a questionnaire. Then all who pass this screening are invited to a short preliminary interview, when a rough estimate is made of their capabilities and character.

At this interview a candidate is told the identity of the client and asked if he still wishes to be considered.

If so, he may be invited to attend a further, much longer interview with the psychologist member of the selection team. There is no battery of exotic tests: rather a simple, but careful and systematic, comparison of the individual against the job specification. A few days later there might follow a third, shorter, interview with a third principal.

At each meeting individual estimates of the candidate's abilities and qualities are made by the interviewers, who then have joint consultations. Subsequently a short list of names, generally about three, but sometimes only one, is submitted to the client, with whom the final choice naturally rests.

If a candidate with special technical qualifications is required, for example an automation engineer, chief accountant, or chief chemist, the advice of specialist consultants from the universities or professions is sought, on a fee basis.

M.S.L. have about 1,000 candidates on their books, and this can save a great deal of time and money. The usefulness of their records is vastly increased by the speed and accuracy with which they can be consulted.

Candidates are filed not by name but by occupation. On manually-operated punched cards are recorded their qualifications, academic and professional, experience; also personal details like age, marital status, and geographical area preferences. To check whether the index contains a suitable candidate for a given vacancy, rods are pushed through appropriate holes, (one for each specification) until by progressive elimination, there is either a small residue of cards, representing eligible candidates, or none at all.

Another new approach is that jobs are described not by conventional





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labels but by simple code numbers which automatically disclose the duties performed. An application of the Brisch classification, this cuts like a whetted knife through a maze of jumbled job designations. Terms like 'production controller,' 'production director,' 'chief production manager' 'works director' or 'works manager' (which often amount to the same thing) are reduced to a two or three-digit code. The simplification thus achieved in filing is enormous.

It is also an important step towards 'personnel flexibility' between one industry and another. This, in fact, is one of the aims of M.S.L., in their attempt to extend the 'catchment area' for executives.

Here are two examples of assignments handled by M.S.L. :

*Case-history 1.* The A.B. Dick company, of Chicago, supply a substantial proportion of the office duplicators used in the U.S., but are not so well-known in Britain. When they decided this year to set up a British branch they asked M.S.L. to find a managing director for them—despite the fact that the A. B. Dick executive selection and development establishment is one of the most comprehensive in North America. M.S.L. were also given authority to fix the salary.

Mr. A. was a manager with a firm of domestic appliance hirers and wanted another job. When his bank manager showed him a cutting of an M.S.L. advertisement, he applied for the post. He received a questionnaire and an invitation to meet one of the agency's principals. The interview lasted about an hour, and was followed soon afterwards by a shorter meeting with the same director. Arrangements were then made for Mr. A. to see the psychologist,

who allowed himself to be 'talked under the table' in the course of three hours. He was one of three or four candidates recommended.

Later, he met the A. B. Dick directors in this country, and was appointed. Total time, from answering the advert, to date of appointment: about six weeks.

Mr. A's comments: There was a friendly atmosphere throughout. The interviews were informal yet thorough. It was satisfying always to be dealing with principals, not assistants or deputies. When the time comes for him to appoint his own executives he will go straight to M.S.L.

*Case-history 2.* John Dale Ltd., London, N.11, manufacturers of collapsible tubes, inserted an advertisement for a sales manager in two or three national organs. There were 300 replies. Many were interviewed but none was suitable. One member of the company met a director of M.S.L. at a cocktail party, and as a result M.S.L. were given the task of finding a man.

An advertisement was placed. Fifteen men replied, twelve of whom were worth consideration. One was appointed. . . When other appointments were due, John Dale Ltd. followed the same course.

**Inside Knowledge.** For many years the personnel officer of a large firm, Ronald P. Wright knew executive

recruitment problems from the inside before he formed the firm of Wright Atkinson Ltd., employment specialists, just over two years ago.

In two years Mr. Wright has placed thousands of candidates, at no cost to their employers, and has accumulated a 'store' of about 4,000 more. All these are in good jobs, but seeking a change. His agency's obligation, in the final analysis, is to the individual candidate. It is he who foots the bill, to the extent of five per cent of his first year's salary.

When the agency was first established it possessed neither a clientèle of potential recruits nor a pool of interested employers. Mr. Wright decided to get the clientèle first: he did not intend his company to become a supplementary personnel office for employers. He believes that this policy has been vindicated by results.

There is no special interviewing technique—only a simple questionnaire asking for personal details, appointments held, and qualifications. Yet the completed form is generally sufficient basis for a good check. The candidate must explain any incompatibilities. When he states his age he is reminded that a birth certificate may be called for. Mr. Wright insists on knowing the worst before he can do his best.

Mr. Wright gets assignments largely from contacts with employers, but supplements these with a brochure sent quarterly to likely firms and professional associations. He finds the direct approach often profitable. The brochure is simply a list of candidates detailed under a reference number, with all reasonable means of identification omitted.

Before these personal summaries are typed, they are sent to the indi-



**2 Consultants perform the chores of advertising, and of interviewing and short-listing candidates — operations which can take up much of the valuable time of chairmen and managing directors. The time thus saved is often worth more than cost of the service.**

vidual for approval. The candidate is urged to ask himself four questions. Is recognition likely? Does the summary do me justice? Is it technically correct? Is the agency guilty of overselling me? Sometimes it is almost impossible to camouflage a candidate because of his special qualifications and experience. Frequently the agency is asked: "Isn't that Mr. B?" But not until the later stages is the identity disclosed.

Wright Atkinson will always advertise if an employer insists, but they will suggest that he first considers the candidates on their books. When advertising is necessary, their knowledge of the media is of the greatest value: they once filled a vacancy for an accountant by advertising in a religious journal!

Mr. Wright believes that if the shortage of first-class men continues it will encourage employers to adopt a more realistic and less expensive approach to recruitment by co-operating with other companies in the same industry in working through an agency. The agency would have strict terms of reference but freedom within these terms to determine priority needs and particular requirements.

Wright Atkinson are already acting in this way for one large group of companies, on a retainer basis, and are providing a steady flow of executives.

Here are three examples of the vacancies filled by Wright Atkinson:

**Case-history 1.** Mr. C, accountant with a firm of soap manufacturers asked for a new job. Eventually he was told of a promising vacancy with Company M. But Mr. C. knew the managing director of company M (their wives were friends) and he dreaded the unpleasantness of a social upset plus wounded dignity, should he be unsuccessful. The agency promised utmost discretion.

The managing director of company M was approached. He guessed from a very guarded description of Mr. C. that he knew him. And he added that he had been thinking of offering Mr. C. a job for two years but was very afraid of a refusal.

**MANAGEMENT SELECTION LIMITED**  
Civil Engineering Posts in Iraq  
For a firm of Engineers...  
MANAGEMENT SELECTION LIMITED  
WORKS MANAGER  
For a firm of Engineers...  
MANAGEMENT SELECTION LIMITED  
MARINE ELECTRICAL DRAFTSMEN  
For a firm of Engineers...  
MANAGEMENT SELECTION LIMITED  
VULNER LEE...  
MANAGEMENT SELECTION LIMITED  
For a firm of Engineers...

**APPOINTMENTS AND SITUATIONS VACANT**  
A large firm of Engineers...  
WRIGHT ATKINSON...  
For a firm of Engineers...

Careful attention to wording may mean a longer and more expensive advertisement but, by attracting the right man and discouraging the wrong, they 'seed' the field beforehand

**Case-history 2.** A medium-sized company informed Mr. Wright that their chief accountant had left them. He told them that in view of the salary they were paying it was small wonder. The company he pointed out, were competing in a 1956 market with a 1939 price.

But the company were not prepared to pay more. As a result the job took six months to fill—and the company had to be content with 'second best.'

**Case-history 3.** An executive, Mr. D, came to see Mr. Wright. His experience, ability and personal qualities seemed to 'tailor-fit' him for a high post with a firm of civil engineers. Mr. Wright felt that there was something which did not 'add up' about the man; however, he put him forward for the post and asked the employers to check references.

They were enthusiastic about the man, but checked. Everything was apparently in order, and he was all but appointed. Later, they cross-

checked the credentials, struck a false note, investigated further, and found that the prospective employee was a fraud. The agency was thanked and given a fresh assignment.

## Don't Delay

Among the pieces of advice which management employment consultants would offer prospective employers are:

1—Don't look for a manager in a hurry. It is much better to anticipate executive needs than go into the market with the serious disadvantage of an empty post to fill.

2—Make up your mind quickly. Many an employer, presented with a good man in the initial stages, insists on seeing a selection simply because he believes it the right thing to do. The dilatory employer may finally decide on the first recommendation, only to find that he has taken another job. Then he will have to be content with second or third best.

# These Confidence-building Courses Lead to Promotion

*The four residential courses at W. H. Smith and Sons Ltd.'s college for management correspond to the main promotional steps in the company.*

*Training methods are concerned mainly with student participation and confidence building. In future, no man will be considered for promotion to the management of a shop or stall unless he has attended the college.*



*No school atmosphere here: students are welcomed and treated as guests of the company*

**H**OW many sales have your company lost because a salesman does not have sufficient confidence in either himself or the product? How many workers have you lost because a manager does not know enough of the art of human relations? And how much really good managerial potential is there hidden in your firm waiting for an opportunity to reveal itself?

That W. H. Smith and Sons Ltd. take these questions more seriously than many firms is proved by their action in establishing a residential staff training college at Shelley House, on London's Chelsea Embankment. This, the management believe, will be of immense value in providing expert staff for the com-

pany's 1,500 shops, bookstalls and wholesale houses which are spread all over Britain, and also for their five branches in Canada and two on the Continent.

The college was opened in February this year, primarily to ensure that

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By JOHN A. ASH

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the company's younger retail staff had the opportunity to supplement their on-the-job training with instruction of a more intense nature. Its residential courses have been described by the Hon. David Smith, the governing director, as "stepping-stones to promotion." In his speech

at the opening, he said: "No man will be considered for promotion to the management of a shop or stall unless he has been through Shelley House. It will be a necessary qualification."

The company realize, too, that now the days of hire-and-fire are over, they must concentrate on developing really first-class managers who can handle staff as successfully as they handle customers.

Four self-contained residential courses are held in rotation at the college. They are for assistants (three weeks); senior assistants (two weeks); managers (two weeks); and senior managers (one week).

The four courses correspond to the main promotional steps in the company. First, a man is given experience in every department of a shop as an assistant. He is then promoted



*In both the conference room (above, left) and the demonstration room (above, right) the free exchange of ideas and experience is encouraged. Left: During their course, students go behind the scenes at national newspaper offices to see how their bread-and-butter line is produced*

to chief assistant. From this position he may be selected as a relief manager, whose job is to take over a branch during the holidays of the permanent manager, or in emergencies. This in itself is considered to be an essential part of the training for branch management. After a suitable period in this position, he is sent to one of the smaller branches as manager. Then as vacancies arise, he is promoted to bigger shops. No managerial positions are filled from outside the company.

The duties of a stall or shop manager are manifold. He is a news-agent, a book-seller, a stationer, a librarian, a salesman of fancy goods, toys and greetings cards. He must also be able to advise customers on die stamping, printing and book-binding. He is responsible for recruiting and training staff, for stock control, for sales promotions and displays, for delegating responsibility (or, in the larger shops, staffing each department), for clerical work (including book-keeping and P.A.Y.E.), for the appearance of his stall or shop, and for staff and customer rela-

tions. On top of all this, he must be armed with a good working knowledge of the Shops Acts.

Initial training is the responsibility of district superintendents and branch managers. If a man shows any special aptitude for the work after several years in a branch, then his manager may recommend that he should be sent to Shelley House.

### *Aimed at all levels*

The aim of the college, in addition to those mentioned earlier, is to bring out and develop the sort of ability which always promises to come to the surface, but manages only to show its periscope. Also, it caters for those who are adequately armed with knowledge but require more confidence to put their knowledge to its best use. Lastly, it gives the senior managers, usually well-armed with both knowledge and confidence, a chance to get together to exchange ideas.

The assistants' and senior assistants' courses are usually attended by those whose periscopes are showing.

The senior assistants' course also prepares students for promotion to relief managers. The managers' course is for relief managers about to take up their first senior positions, while the senior managers' course takes the form of a conference dealing with the most pressing aspects of branch management and retailing in general.

From the outside, Shelley House gives no indication that it is a college. It still looks a rather lovely private residence, overlooking the Thames. Inside, this impression still prevails, for beyond all else, the company wish to avoid a 'classroom atmosphere'. There are three permanent instructors, all ex-senior managers from within the company.

The training at Shelley House is extremely modern in conception. The methods used are based on the study and discussion of case-histories, on the use of aural and visual aids, and on group study and exchange of experience.

Although there are set curricula, the courses rarely follow an identical pattern. Since there are some 1,500



branches, all differing in one way or another, it is not possible to lay down rules and systems applicable to all branches.

When about 30 students, each from a different area, attend a course, there may be common problems, but common solutions are seldom obvious. And since the courses rely to a great extent on student participation, the diversity of types makes a set pattern for a subject a little difficult!

However, the courses encourage a free exchange of ideas, and the number of suggestions which have been adopted universally shows that it is possible to find some common solutions.

A subject which appears on all courses is customer and staff relations. To give a customer confidence to buy means that the manager must have confidence in both himself and his products. And, of course, his assistants must share that confidence.

Here may be a good point to look in on a typical managers' session at Shelley House.

A film-strip (made by the instructional staff at Shelley House) shows how an assistant has upset a customer by a series of elementary and ham-fisted blunders. In the finish, the customer blows his top and demands to see the manager.

At this point the film-strip ends, and these questions are posed. How would you handle the customer? How would you handle the assistant? What mistakes did the assistant make? How would you avoid a repetition of this scene?

The students split into groups of 10, and each group elects a leader. Not unnaturally, most of the students have plenty to say on at least one question. A first-class debate commences, and the number of personal experiences which infiltrate into the

arguments show that the problem is not altogether unknown. The instructors move from group to group, and by careful and subtle prompting, widen the discussion and inject new ideas.

At the end of a given time, the groups re-mingle and the group leaders give their groups' answers to the questions. The instructors comment on the answers and draw conclusions.

### *More confidence*

After a session of this sort, 20 managers walk out of the conference room feeling much more confident to handle a similar situation, should it arise; confident, too, that they will generally be able to prevent it from arising.

Another subject which takes up a good proportion of the courses is the appreciation of the effects of rising costs, the credit squeeze and national business problems. The managers are given full details of the company's accounts and economic policies, then asked to apply them under the assumption that their branches were their own businesses. Once they have seen things in this light, the teaching of how to buy and sell, to avoid waste, and so forth, becomes relatively simple.

The more practical side of the business is not overlooked. At one session, lantern slides are shown of old and new bookstalls. Good and bad displays are depicted, and the bad ones often provide a good exercise in spotting how things should not be done. As soon as the slides have been shown, the students go to the demonstration room, where there are 17 different types of bookstalls, island fittings and display fixtures, all fully stocked.

Here again, the emphasis is on student participation and confidence-

building. Rarely do the instructors lay down definite rules. Rather do they suggest several ways of improving the displays, then leave the students to do their own thinking and re-arranging. Sometimes, if a problem is particularly tricky, the instructor will put alternatives in such a way as to suggest the correct one. When a student picks it, he will invariably attribute it to his own astuteness—and yet another brick of confidence is cemented in place.

Speech training is among the most important subjects covered by the courses. Students get a day's notice that they will have to speak on a given subject for two minutes. The instructors feel that this notice is necessary, for normally only about 15 per cent of students are accustomed to public speaking. To expect a spontaneous speech is asking too much, and might well undo the results achieved up to that point; embarrassment is the greatest underminer of confidence.

The speeches are recorded on tape, and played back. The instructors point out faults in delivery or interpretation, and sometimes students volunteer to have a second try. Invariably, this proves to be considerably better than the first try.

Other subjects include: how to teach young assistants; how to buy the right goods in the right quantities; how to learn the reading habits of customers; and how to push new lines.

At the end of each course, a questionnaire is given to each student; not as an examination (for no such thing exists at Shelley House), but as a chance for the student to give his opinions and criticisms of the course. Through these questionnaires, many constructive criticisms and suggestions have been received and adopted.

Although there are no examinations, a confidential assessment report is made out for each of the younger students, describing the practical abilities and personal qualities observed by instructors during the course. This report is sent to the student's district superintendent, and added to his personal file.

- The aims of the college are to bring out and
- develop latent ability; to give confidence to
- those who are already armed with knowledge;
- and to give those with both confidence and
- ability the chance to exchange ideas.



*Pick an agent you can trust . . . follow his advice at all costs . . . go and see him as often as possible. . . . Using this export 'formula,' James Burrough Ltd. have thrust an old-established British product into one of the most competitive markets in the U.S.A.*



## Quality-first Policy Opened a Million-dollar Market

By ALAN PETERS

A BRITISH product is earning big money in the U.S.A.—136 years after it was placed on the home market. It has been aimed, uncompromisingly, at people 'who prefer the best'; people, moreover, who are satisfied in their own minds that 'the best' should cost appreciably more than other brands. Within a short period this policy (plus the special type of satisfaction induced by the product itself) has pushed the manufacturers' North American earnings into the million-dollars-a-year class.

The product is Beefeater gin, which is distilled in London by the third-generation family firm of James Burrough Ltd.

In placing this gin on the North American market, Burrough's and their agents have very carefully exploited the virtues of character and tradition which its name implies. Here, of course, a distiller has some advantage over manufacturers of (say) motor cars or engineering products. But this case-history is not trying to defend the outworn idea that successful export selling begins and ends with a 'Made in Britain' label. What it does provide is an example of first-rate co-operation between a British manufacturer and his American agent.

It also emphasizes the value of top-level investigation of an overseas market. With an established agent and a 136-year-old product, the directors of James Burrough Ltd. might be forgiven if they had stayed at home and waited for the dollars to roll in. Yet their chairman, Eric Burrough, is convinced that his own American visits are an essential investment in a market which still has to be developed fully.

For many years his company have been in the somewhat unusual position of exporting at least half of their output. Today, their gin and other spirits are sold by agents in more than 100 countries. In many markets the volume of sales is rising

continuously, and although new stills were opened recently, it seems that the demand for their products will soon be a long way ahead of production capacity.

Nothing has contributed more to this state of affairs than the success of the American campaign. Indeed, it has stimulated sales in other countries which are visited by large numbers of American tourists.

Beefeater gin was not unknown in the U.S.A. before the war. Then, however, it was exported in bulk, bottled by an American distributor, and sold more or less in direct competition with native brands. Because of the effects of preferential duties, it never got very far.

This agreement lapsed in 1940. But immediately after the war, Burrough's were approached by the



*In developing the American campaign, Burrough's and their agents have carefully exploited the character and tradition implied by the name of the product*

Kobrand Corporation of New York. They suggested that Beefeater gin should be sold as a high-priced connoisseur's drink, relying on a reputation for quality and the snob-appeal associated with imported liquors.

Burrough's were impressed by the status of the Kobrand Corporation, who were already handling a number of imported wines and spirits on a sole agency basis. And they were equally impressed by the sincerity of the corporation's president, who visited them on several occasions while the negotiations were taking place.

It was agreed that Kobrand should 'plug' the name of the product rather than their own or Burrough's name. Beefeater gin had been christened at a time when dollar-exports were unheard-of, but the name might well have been chosen as one which would appeal to the drinkers of a young, beef-eating nation with a penchant for 'cute' titles! Even if a prospective customer were completely ignorant of British tradition, he would get the impression of something pretty potent.

It was also decided, of course, that such impressions would be borne out by the strength and quality of the product. Distilled from grain, the export variety of Beefeater gin is 83 per cent proof—94 per cent proof by American standards. A bottle costs \$5.54 (about 38s. 6d.), which is 10s. 6d. more than standard American gins. And most customers have accepted this big difference in price as further evidence of quality.

One of the first steps in the American campaign was the evolution of a label which really suited the new market. The Kobrand Corporation thought that the existing label was too plain, and suggested numerous

ways of improving it. But, significantly, they left Burrough's with the job of actually producing a new design; it was not their intention to destroy the traditionally British character of the original by 'slicking it up' in American fashion. Burrough's, on the other hand, genuinely welcomed the effects of American 'pep' on their rather conservative attitude towards presentation. Much advice and many specimens crossed the Atlantic before the design was finally approved.

A new type of bottle was chosen, too—although here the choice was very largely influenced by the availability of moulds in the immediate post-war period.

### *Building Goodwill*

The Kobrand Corporation are responsible for all publicity in the States. Throughout the campaign they have relied to a large extent on the goodwill built up by personal recommendations. Their main concern has been to get Beefeater gin into the right places: the hotels and bars used by top-level businessmen and others. Now, however, they are making considerable use of advertisements in class journals like the *New Yorker*, *Esquire* and *Gourmet*.

At first, the campaign made rather slow progress. By 1950, however, it was gathering momentum, and three years later things began to move very quickly indeed.

The quality of the product was established; and the 'cute' name was catching on in a big way. Beefeater bars were opening in a number of cities. More and more people were asking for Beefeater martinis—for

Beefeater had become one of the very few proprietary names to find their way into the American drinker's lexicon! It has now achieved the distinction of being the States' top-selling imported gin.

One lesson which Burrough's have learned from their distributors is that even a traditional quality-before-price product (in which there is normally very little incentive to make changes) periodically requires new presentation gimmicks if it is to hold its place in the American consumer-goods market. Some time ago, at Kobrand's suggestion, they began to use cellulose film wrappings. For a bottled product, this may seem extravagant; but the company have found by experience that it definitely boosts sales in a country where transparent packaging is probably more commonplace than anywhere else in the world.

Now the bottles are being packed individually in cardboard cartons. This, too, is fairly expensive, and at the same time it has raised new problems for the production departments. But Burrough's are convinced that results will justify the additional cost. Like the label, the carton was designed in Britain, after the exchange of much correspondence and many transatlantic phone calls.

A small point which appeals to American buyers is that a serial number is now stamped on every bottle. This was introduced primarily as a method of checking that sub-distributors did not 'poach' on each other's territory. But the psychological effect on purchasers is also valuable, since it helps to strengthen the idea of a quality product.

Even in the highly-competitive American liquor trade, Beefeater gin is generally sold at the top price. While anti-monopoly laws preclude the fixing of a general retail price, the Kobrand Corporation discourage 'price-cutting' by all permissible means.

Burrough's warmly endorse their agents' firm stand in this respect. They share Kobrand's view that the psychological effect of price-cutting could easily undermine the reputation of a quality product. After all, the

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reason, if a man is in the privileged position of 'preferring the best' his confidence in a product may be shaken if it is offered to him on the cheap!

Another important consideration is the effect on retailers. If a bartender makes an additional 20 cents by selling a Beefeater martini, he has every incentive to go on pushing this type of drink. But if his 'bonus' is only five or ten cents, he may decide that it is much easier to sell American gin martinis.

Burrough's export 'formula' is simple:

- 1—Make sure that your product is of the right quality; and present it in the right way.
- 2—Pick an agent whom you can trust implicitly; then go ahead and take his advice.
- 3—Visit your agent as often as possible; if you know how his mind works you can make better use of the ideas which he puts forward.

Eric Burrough attends to the third point himself. A few months ago he returned from an eight-week tour in the U.S.A. and Canada—his third visit since the campaign opened. In future he aims to have a 'long look' at the dollar market every 12 months or so.

"By talking to Kobrand's president for half-an-hour," he says, "I get as far as I would normally expect to get after some months of letter-writing!"

"Overseas distributors and their customers like to meet the top man. On my visiting card I used to des-

cribe myself simply as a director. But the American agent pointed out that 'chairman' would impress people much more. I took his advice—and find that it makes a big difference."

On each visit, Mr. Burrough contacts as many as possible of the sub-distributors. By attending their sales conferences, he hears what the representatives—and their customers—are saying about Beefeater gin. He responds by giving general-interest talks, answering questions and supplying specific information which may help to make their sales-talk more effective.

### Seeing for Himself

Underlying these activities is Mr. Burrough's firm belief that here, as in the case of other countries, the man-at-the-top must have first-hand knowledge of market conditions before he makes policy decisions which will affect future exports.

He finds that the American agents are genuinely interested in the affairs of the British company. When he returned from his last trip, he brought with him a tape-recording of the Kobrand president's opinions on various aspects of production, sales and administration. This recording was subsequently played back to his executives at the Cale Distillery in London.

But although the willingness with which Burrough's have accepted advice is an important factor in the success of their American campaign, it is only fair to add that ideas have flowed in both directions.

An example is the Beefeater Club



*Personal recommendation started the campaign moving. Then came advertisements in top-line journals. The accent was on the 'snob appeal' associated with imported liquors*

which Burrough's formed in Britain last year. (Members wear a special tie, exchange amusing catchphrases, and pay fines—in the appropriate currency—when they break club rules.) Now the Kobrand Corporation are thinking of starting a similar club in their country

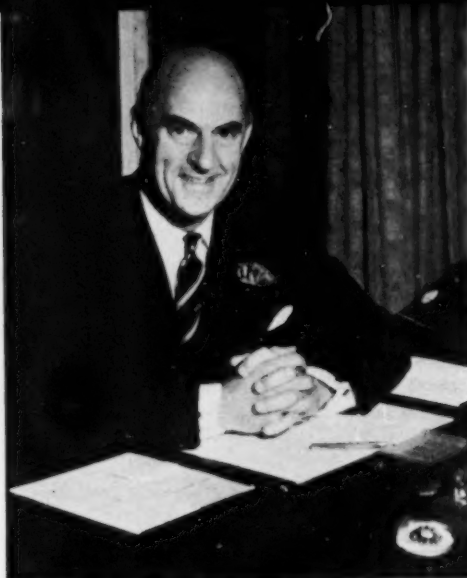
The success of the American campaign is undoubtedly influencing Burrough's policy towards their home market. About two years ago, they decided to break away from the price 'plateau' on which British gin sales are generally based, by marketing Burrough's Extra Dry, a de luxe gin distilled from grain and of the same quality as American Beefeater.

The company are confident, moreover, that their American sales will go on rising—as long as they avoid complacency and are prepared to feed the market with new ideas.



*Already in the million-dollars-a-year class, American sales of Beefeater gin are still rising. Recently more than 8,000 cases were despatched to Chicago in one consignment*

*People were surprised at the vigour and resourcefulness with which Kenneth Horne tackled his recent B.I.F. assignment. What they did not know was that the popular broadcaster is also a top executive in his own right. Humour allied to business acumen is one of the reasons for his success in the past. The same medicine should prove a tonic for the manufacturing group he now leads.*



**KENNETH HORNE**  
*Thinks British business life is far too stuffy*

## Not Much Binding In This Boardroom

**K**ENNETH Horne's favourite lecturing topic is 'Business with Pleasure.' He fails to display the reverence for business pomposity which lesser men regard as essential. But this approach should fool no one. It was not as a comedian that he was asked to manage the B.I.F. during its most crucial phase. It is not as a gag-man that he has just been made chairman and joint managing director of the Chad Valley group of toy firms. First and foremost Mr. Horne is a businessman. However much his public may clamour for him in cap and bells, business gets priority.

It always has done, for Mr. Horne was a salesman long before he rolled 'em in the aisles. He was born 49 years ago, son of a London Congregational minister of considerable renown, and grandson of Lord Cozens-Hardy, a Lord Justice of Appeal. After a year at the London School of Economics he went up to Cambridge, where he continued to read economics. But not hard enough. The attractions of various sporting activities proved too much for him; after only two years, his university career came to an untimely end.

Through his family connections he had been earmarked for a career with

the Pilkington glass concern (Sir Harry Pilkington is, in fact, his cousin). But after the Cambridge débacle the then chairman of Pilkingtons rather firmly declined his services. He would not give young Horne a job, he said, nor would he use his influence to get him one elsewhere. What he did was to pass on

BY STEPHEN ROSE

the tip that Triplex were building a new safety glass plant in Birmingham. Presumably they would be needing extra staff. More he would not say.

Mr. Horne took the next train to Birmingham and saw the plant's general manager. The meeting seems to have been a great success.

"What degree did you get at Cambridge?" asked the G.M.

"None at all, I'm afraid," said the candidate.

"Well, what *did* you do there?"

"I played rugby and tennis."

"Good. You're just the sort of chap we need. You start on Monday."

Mr. Horne tells this anecdote with his habitual modesty. Undoubtedly the interview gave him other opportunities to shine than this excerpt suggests. In any case, he did start—and was promptly packed off back to Pilkingtons to learn about glass-making. He went right through all the departments of one of their large depots.

Returning to Birmingham, he started working for Triplex as a progress clerk, but soon transferred to the sales side. Here he made good. His easy manner and genuine knowledge of the product won him first-class accounts. His energy and

**BUSINESS**



determination kept him on top of that surprised many showpeople: stimulating outlet to his initiative. them. Kenneth Horne went straight back. The chance came when the British

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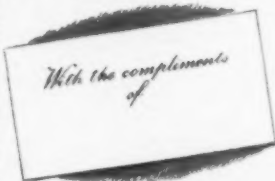
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about through good 'mixability' and an exuberant good-humour; customers looked forward to his calls, not as chores, but as pleasing interludes in an otherwise dreary life. His sudden translation into a popular entertainer was the result of exactly the same qualities.

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At the end of the war came a move

step ahead of international design trends. Creative selling, Mr. Horne found, played little part in his duties. As sales director he did try to liven up sales promotion and advertising. But he readily admits that the results were not spectacular. He could find no better slogan than the well-established one: 'Fit Triplex—and be safe,' and he began to yearn for a more

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The Fair was re-timed to suit the demands of the consumer industries; the toy trade and electrical firms were brought back into the London B.I.F.; exhibition space was made much cheaper; press and publicity arrangements were improved beyond recognition; in short, Britain's shop-

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**BUSINESS**

determination kept him on top of them.

His sales career followed a successful but conventional pattern until the outbreak of war. By that time he was an area manager within whose province fell three of the industry's richest plums: Birmingham, Oxford and Coventry. But he had obtained an Auxiliary Air Force commission in 1938, and so was one of the first to be called up.

Until then Mr. Horne had had no connection with show business whatever. He had not appeared in amateur dramatics, nor won a talent-spotting contest. He did not even participate in camp shows at his R.A.F. station. But one day came an order from his Air Officer Commanding to organize a half-hour radio show for the B.B.C.'s *Ack-Ack Beer-Beer* programme which had just been started.

That first show was a success and he was asked to arrange others. When, on a subsequent occasion, he had to find someone to compère a quiz section for the programme, he decided to try it himself. So began his broadcasting career.

His quiz appearance was an instant success. It was just one of those things that click with the public. Mr. Horne's sales success had come about through good 'mixability' and an exuberant good-humour; customers looked forward to his calls, not as chores, but as pleasing interludes in an otherwise dreary life. His sudden translation into a popular entertainer was the result of exactly the same qualities.

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that surprised many showpeople: Kenneth Horne went straight back to Triplex. What they did not know was that he had never stopped 'nursing' his territory during the war years, visiting old customers during precious periods of leave. In spite of his success as an entertainer he never planned to give up his business career.

In fact, he had the best of both worlds. His B.B.C. work continued unabated, through still strictly an off-duty occupation. At the same time the company welcomed him back with the job of sales manager, based on the London office. In 1951 he was made a director of the firm.

### *Distinct Snag*

Mr. Horne's position was now enviable indeed. A normal mortal could have been forgiven for sitting back and basking in this comfortable combination of popularity and success. But for Mr. Horne there was one distinct snag: an overwhelming proportion of safety glass sales are in the form of original equipment on motor vehicles. Once the contract has been secured with a car firm, the sales manager's job is mainly one of customer relations and keeping one step ahead of international design trends. Creative selling, Mr. Horne found, played little part in his duties. As sales director he did try to liven up sales promotion and advertising. But he readily admits that the results were not spectacular. He could find no better slogan than the well-established one: 'Fit Triplex—and be safe,' and he began to yearn for a more

stimulating outlet to his initiative.

The chance came when the British Industries Fair was freed from Government control. The Federation of British Industries invited Mr. Horne to be one of their two representatives on the board of the new company. He accepted. Later, when his fellow directors unanimously asked him to become managing director of the Fair, he did not hesitate. He was taking on one of the toughest assignments in British industry: an alarming backlog of indifference had to be combated. With nearly half the original £100,000 grant already spent and four years still to run, the company's financial state was precarious. The 1955 Fair had been lukewarm, and bookings for 1956 were meagre. Nevertheless, he left Triplex, with whom he had been for over 27 years, and took up his new post on July 1, 1955.

The story of subsequent events is well known by now. Those who had thought of the new boss as purely a publicity figurehead were surprised to see the imagination and resourcefulness with which he set about his task. They had not reckoned with the fact that Mr. Horne, good speaker though he is, can also listen very carefully. From his wide range of contacts with industrial leaders he knew what the Fair's customers wanted. He set out to supply just that.

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No profit was made on the Fair this year. None had been expected. All the same, it was a pronounced success as a prototype for the future. Advance bookings for 1957 confirmed this. The February Fair would almost certainly have been able to fill the whole of Earls Court next year.

Says Mr. Horne: "I said then and say now, if the Treasury had shown greater faith in British industry, the B.I.F. could have been self-supporting by the end of 1957. It was a tragic bit of short-sightedness that prompted the refusal of one final grant. All that stood between us and success was virtually a drop in the bucket, but they wouldn't give it to us." The exact size of the 'drop' has never been made public, but it was probably in the region of £150,000.

As soon as the demise of the London B.I.F. became public knowledge, Mr. Horne's phone started ringing persistently; offers of alternative employment jostled into the office. There were about twelve possibilities. The 'bag' included independent television, a national newspaper, and firms large and small. What to choose? None of the offers struck him as obviously the right answer, but he was already negotiating with a well-known motor car firm when one evening the telephone rang at his London flat. A representative of the Chad Valley group was on the line, asking whether Mr. Horne was still open to suggestions.

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morning, and the deal 'clicked.' Making up his mind very quickly, Mr. Horne decided he had found what he wanted. With Chad Valley he would be with a well-established firm, in an industry where high-level salesmanship was very much needed, and where his own side-line as an entertainer could play a useful part. As chairman he would be his own boss. As joint managing director he would find an outlet for his business acumen.

Nor was he walking into a 'feather-bed' job. Chad Valley are among Britain's largest toy firms, but their progress since becoming a public company a few years ago has not been outstanding. The group offers plenty of scope for dynamic direction. With its know-how and capacity it could do great things. The new chairman is determined that it shall.

### *'Americanization'*

Already he has assessed the situation and determined his main lines of attack. He has visited the group's many manufacturing plants, met the salesmen, spoken to wholesalers and retailers, and has come to the conclusion that the company needs 'Americanizing.' He apologises for the term, but feels that we should be realistic about the action it describes. Sooner or later someone in the toy trade is going to re-think along American merchandising lines, and come out on top. He hopes it will be his own firm.

The process he has in mind is difficult to define precisely. It will consist, broadly, of bringing the merchandise up-to-date, re-designing sales packs and promotion material, re-angling the advertising, inaugura-

ting a public relations campaign, and reorganizing the sales division. He also has ideas for tightening the production set-up.

Already some of this ambitious programme has been started. Manufacturing tie-ups with leading American firms have been negotiated, television 'spots' have been booked, the design team has received a new brief and a new advertising campaign is being planned.

This sounds like real go-getting by the new chairman. But Mr. Horne is a relaxed executive who dislikes playing the part of a tycoon. "The first thing I did on joining Chad Valley," he says, "was to take a month's holiday." He has absolutely no respect for people who say they can't get away from the office. He admits that in the past he made the mistake of trying to do too much detail work himself, but from now on 'delegation' is going to be his keyword. Indeed, with himself living in London and most of the production plant up in Birmingham, this will become essential.

Meanwhile, his other activities continue unabated. Though he no longer has his own radio half-hour every week, his engagement book is well filled with all sorts of broadcasting and television work.

He is also a sought-after speaker at dinners and other business or social functions. On these occasions he is very rarely serious, as everyone will know who has had the pleasure of hearing him.

Mr. Horne's is a peculiar mixture of business and entertainment. What is his secret? Perhaps the answer is that he can thoroughly enjoy himself, whatever he is doing. He lives life with zest, and has the knack of communicating this to others. He also has a tremendous capacity for work. The question now is whether he can pass that on, too. The next few years will reveal whether he is just a competent performer, or whether he also has star quality in business life. Either way, the company will be worth watching. With Mr. Horne waving the starter's pistol Chad Valley are already on their marks.

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A film made with an ultra-fast cine-camera can show exactly what happens during a split-second operation. Now developing rapidly, this technique can pinpoint faults in machines or processes and aid design improvements. Yet it is cheap enough to be considered even by small firms.



# HIGH-SPEED PHOTOGRAPHY

## How it Solves Production Problems

By MARTIN BOOKHAM

**A** PAPER-MAKING firm was having trouble with the operation of some rollers. Production was held up by repeated breakdowns. Very high-speed films were taken of parts of the action. They showed where the fault lay, and allowed successful modifications to be carried out.

An office machinery manufacturer was plagued by a 'gremlin' in certain machines. Faulty calculation would suddenly occur without apparent

reason. High-speed ciné-studies of the mechanism revealed that a 'bounce' in a pawl-and-ratchet mechanism was the cause of all the trouble.

Very high-speed photography means taking several thousands (and sometimes hundreds of thousands) of motion picture 'frames' per second. Thus almost instantaneous actions can be slowed down and studied at leisure. *An action lasting half a second, if photographed at*

*4,000 frames per second, can be made to last for over two minutes when projected at 16 frames per second.*

Such films are also clear enough for frame-by-frame study. That is why they often succeed in tracing faults, as in the two examples above, which other methods cannot detect.

During the last war, intensive research work was carried out in the United States with the object of designing a simple and economically-priced camera using standard 16mm film and capable of medium frame speeds of from 1,000 to 16,000 per second. As a result of this work, a



window was scrubbed, polished and re-stocked. After its years of somnolence under Government control, life was breathed back into the enterprise.

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Meanwhile, his other activities continue unabated. Though he no longer has his own radio half-hour every week, his engagement book is well filled with all sorts of broadcasting and television work.

He is also a sought-after speaker at dinners and other business or social functions. On these occasions he is very rarely serious, as everyone will know who has had the pleasure of hearing him.

Mr. Horne's is a peculiar mixture of business and entertainment. What is his secret? Perhaps the answer is that he can thoroughly enjoy himself, whatever he is doing. He lives life with zest, and has the knack of communicating this to others. He also has a tremendous capacity for work. The question now is whether he can pass that on, too. The next few years will reveal whether he is just a competent performer, or whether he also has star quality in business life. Either way, the company will be worth watching. With Mr. Horne waving the starter's pistol, Chad Valley are already on their marks.

**Kenneth Horne never stopped 'nursing' his territory during the war years, visiting old customers during precious periods of leave. In spite of his success as an entertainer, he never planned to give up his business career.**





A film made with an ultra-fast cine-camera can show exactly what happens during a split-second operation. Now developing rapidly, this technique can pinpoint faults in machines or processes and aid design improvements. Yet it is cheap enough to be considered even by small firms.



## HIGH-SPEED PHOTOGRAPHY

### How it Solves Production Problems

By MARTIN BOOKHAM

**A** PAPER-MAKING firm was having trouble with the operation of some rollers. Production was held up by repeated breakdowns. Very high-speed films were taken of parts of the action. They showed where the fault lay, and allowed successful modifications to be carried out.

An office machinery manufacturer was plagued by a 'gremlin' in certain machines. Faulty calculation would suddenly occur without apparent

reason. High-speed ciné-studies of the mechanism revealed that a 'bounce' in a pawl-and-ratchet mechanism was the cause of all the trouble.

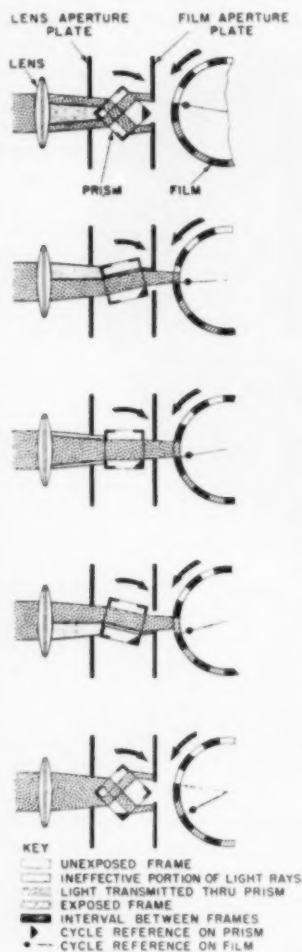
Very high-speed photography means taking several thousands (and sometimes hundreds of thousands) of motion picture 'frames' per second. Thus almost instantaneous actions can be slowed down and studied at leisure. *An action lasting half a second, if photographed at*

*4,000 frames per second, can be made to last for over two minutes when projected at 16 frames per second.*

Such films are also clear enough for frame-by-frame study. That is why they often succeed in tracing faults, as in the two examples above, which other methods cannot detect.

During the last war, intensive research work was carried out in the United States with the object of designing a simple and economically-priced camera using standard 16mm film and capable of medium frame speeds of from 1,000 to 16,000 per second. As a result of this work, a

## OPERATION OF ROTATING PRISM



wide range of high-speed equipment is on the market today.

The technique of its application in industry is rapidly developing and already a large number of firms on both sides of the Atlantic have used it to solve design and production problems.

### How it works

The intermittent camera action used in normal cinematography at

16 or 24 frames per second works by jerking the film forward, halting it, exposing a frame, then moving it on to the next position while the shutter remains closed. The system can also provide slow-motion photography up to 275 frames per second, but above this point the film would break with the strain of intermittent motion.

For this reason, most high-speed cameras rely on *continuous* movement of the film through the camera. The film, generally either 100 or 400 feet in length, runs through the exposure gate at 250 feet per second, a system of precision gears ensuring the necessary acceleration. Varying methods are used to separate the exposure into frames. The simplest and most efficient is the rotating prism method.

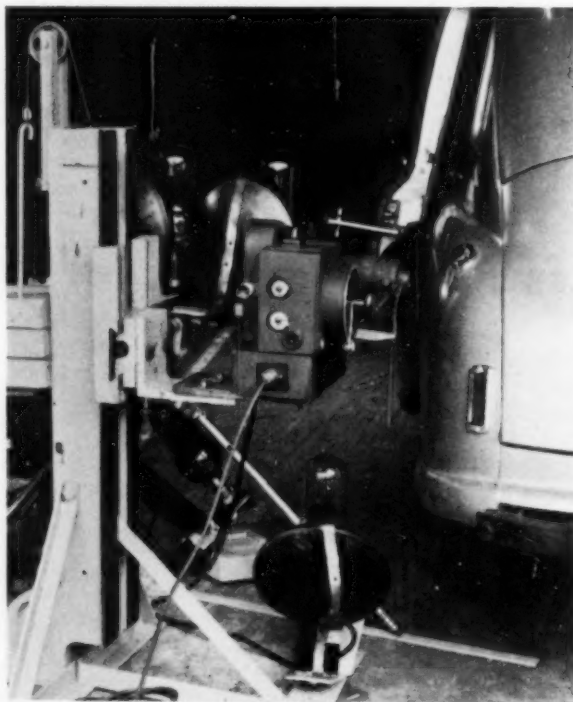
The illustrations on this page show how it works. The prism is made to rotate in the opposite direction to the film. It refracts the light on to the film so that four exposures or frames are recorded for every full revolution of the prism itself. As can be seen, the photography action

is similar to printing from a rotary press: not all the frame is exposed simultaneously, but synchronization of film and prism speeds ensures that no blurring takes place. The rotating prism method can cope with speeds up to about 20,000 frames per second.

Very much faster speeds are obtainable with what are known as image dissection, focal-plane scanning and 'drum' techniques. But these expensive techniques are of only limited application, since they reach speeds that are excessive for most industrial applications.

### What it can do

In Russia every major factory now has its own high-speed ciné-camera, according to the spokesman of a recent trade delegation. In the U.S.A. there are about 700 cameras in use at the present time. But in Britain there are only about 40 cameras, and of these, only seven belong to individual firms. The rest



Set-up for high-speed photography: special lighting and power supplies, rigid camera stand. This is how John Hadland and Co. filmed the slamming of a car door for Wilmot Breedon Ltd., who make components for motor cars, etc.

are used either for group experimental work, or are hired out by specialist organizations as an industrial service.

These organizations are either research associations set up within individual industries, or commercial firms who act as consultants in high-speed photography, and are hired by user firms to tackle specific projects. They use the technique in two main ways:

- 1—Trouble-shooting: the analysis of a process, machine or product to see how a fault occurs.
- 2—Design study: the investigation of a process in order to understand exactly what takes place, so that better design can be achieved.

The sort of studies that have been undertaken successfully are: causes of tool wear in metal-cutting operations; the study of valve 'bounce' and timing chain wobble in motor car engines; the explosion of fire suppressors; and the behaviour of fluxing agents and the transfer of metal in arc welding processes.

### What it costs

An attractive aspect of high-speed photography is that it is not prohibitively expensive. A small but good camera, capable of about 3,000-5,000 frames per second costs in the region of £800. A projector, made to 'play back' the films at either sixteen or two frames per second, or frame-by-frame, costs under £100. Special lighting equipment and camera stands account for further expenditure, but a firm's own high-speed unit could be set up for as little as £1,200.

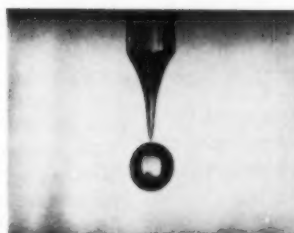
Many firms, however, would feel that their production requirements do not warrant such an outlay. While they may well have specific problems that could benefit from high-speed ciné-studies, these need not necessarily warrant the acquisition of their own unit. For one-time uses such as these, the services of a consultant firm could be considered.

Here again, the cost is reasonable. One such firm, John Hadland and Co., of Kings Langley, quote a standard charge of 50 gns. per day's

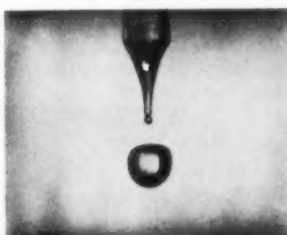
DECEMBER, 1956



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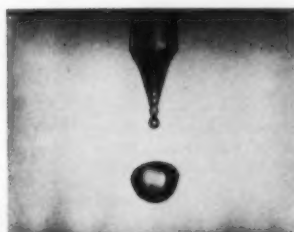


2



3

*A 3,000 f.p.s. film, made with a Kodak high-speed camera, enabled a manufacturer of wetting agents to study the behaviour of water droplets. The formation of a satellite droplet—picture 5—could not have been detected by any other means*



4



5



## SCIENCE PROSPECT

work. This charge includes everything except the cost of the actual film that is used, which varies between £2 5s. and £3 per 100 feet. The term 'day' is often stretched to considerable limits, and Hadlands reckon to complete most assignments within one day's work.

Apart from the cost angle, there is another big advantage in using a consultancy firm for this type of work. High-speed cinematography is quite a different technique from ordinary 'movie' photography, especially as far as industrial applications are concerned. A firm of consultants are often liable to get better results than a cameraman who normally uses different equipment. Their

fault-finding experience, too, can be an invaluable asset.

Reputable consultants in this field consider themselves bound by the same scrupulous standards of professional secrecy as apply in other fields: all their work is done in strict confidence.

### Case-History

► **The Problem**—Tate and Lyle Ltd. wanted to speed up the packaging of their one-pound sugar cartons. But it was found during experiments with a new type of machine that the sugar was not going cleanly into the packets at higher speeds.

To correct the fault, the main questions that had to be answered were: How does sugar behave when flowing at speed? Why does it fill better on slower machines? What is the best angle for the chute? How can the new machine's design be altered to assist the flow?

► **Action Taken**—The chief engineer contacted John Hadland and Co. Since the total filling action on the new machines lasted under half a second per packet, this was clearly an ideal subject for ciné-study.

In consultation with Hadland's, the company built a mock-up in transparent plastic of the filling installation. They set it up in front of an illuminated screen, so that on the film the flowing sugar should appear as a black silhouette.

Several films of this model were then taken. One concentrated on the sugar release point at the top. Two others studied the flow of sugar down the chute at 45 and 60 degrees to the horizontal respectively. Two others observed the arrival of the sugar in the packet.

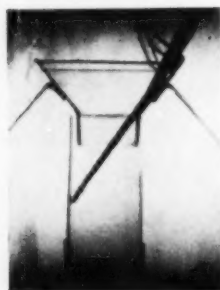
► **Results**—When the films were screened at 16 frames per second—giving a 'time magnification' factor of 200—several major points emerged. Pictures of the release action, for instance, convinced designers that the shape of the first hopper was a more important factor in the operation



*The set-up for Tate and Lyle's project, described on this page. Sugar is released into hopper at the top, deflected down chute into second hopper, and on into the packet. Slot in the chute was used for head-on studies of sugar falling down*

- 1 Sugar enters packet like a jet.
- 2 Breaking against side of packet, it forms air bubble. Sugar is forced back up into hopper.
- 3 Air bubble breaks through. Note original jet (right) and subsidiary jet (left) both running into packet.
- 4 Original jet has now finished running, but subsidiary trickle still coming in on the left, demonstrating that air bubble prolonged the packet's station time.

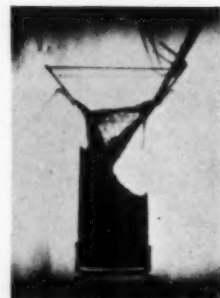
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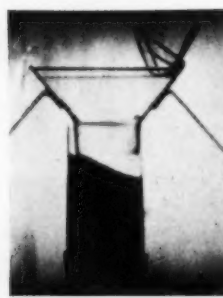
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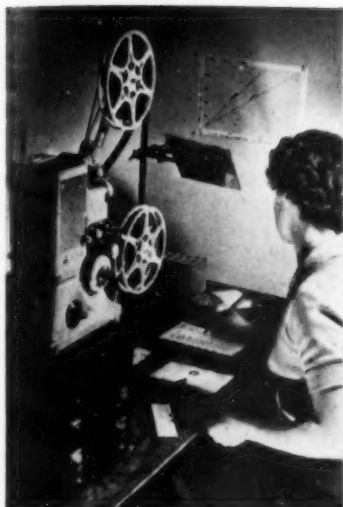
3



4







High-speed films are normally projected on standard 16mm. equipment. But sometimes it is more convenient to use a special analysing projector, like this Specto, which can be made to run at either 2 or 16 frames per second or to show 'stills'

than they had thought.

But the most startling revelation came from a study of the packet itself being filled. The most telling frames are reproduced on page 86. It was seen that the sugar arrived like a jet of water and, breaking against the side of the packet, imprisoned an air bubble. This actually forced some of the sugar back into the filling funnel until the increase in pressure allowed the bubble to penetrate the incoming flow and escape. This was a dramatic explanation of one of the filling snags that had been encountered, and allowed the designers to devise a way of overcoming them.

► **Counting the cost**—The shooting of the films took only one working day, so that the consultants' fees were extremely moderate. But Tate and Lyle also incurred the expense of making the mock-up, having staff electricians lay on the special power cables required for lighting purposes, and loaning other members of the staff to help on the project. Thus, a realistic costing of the experiment is hard to come by, but the firm are perfectly satisfied that their investment was most reasonable in view of what they learnt from the films.

## How Electronics Can Train Tomorrow's Office Workers

By GEORGE HAMILTON

By simulating certain properties of the human brain, an automatic training device can now adapt its teaching methods to the abilities of individual trainees. It is being developed primarily to speed the training of office equipment operators.

VISITORS to this year's Physical Society Exhibition in May were attracted by an electronic set-up which showed the model of a small "dog" being trained, first to react to a "bone," then to associate the "bone" with a flashing light and a ringing bell, then to react to the light and the bell even when the "bone" was absent.

They were witnessing a demonstration of something quite new in electronics—a brain simulator. This is a complex of relays and valves which literally imitates some of the functions of the human brain. It is, for instance, capable of having its reflexes conditioned by experience. The invention is the work of Gordon Pask, of Systems Research Ltd., to whom Eric E. Jones suggested the "dog" and "bone" display. It is now being developed by Mr. Pask with the Solartron Electronic Group Ltd., in the form of a machine to train operators of office machinery, and other workers requiring certain kinds of manual skill.

For this application, the brain simulator is joined to a "textbook"—the programme for a specific task that has to be taught—and is linked to some kind of display whereby it can ask the trainee questions and set him problems. A feedback system enables the "instructor" to compare

the trainee's answer with the "text-book," and thus evaluate his progress.

But that much a computer could also do. What Eucrates (as the new device is called) can do that is unique is to *simulate the human operator's mental pattern*—in other words, to deduce from his responses the image that he has formed of the task, and to reproduce or match that image or pattern almost exactly. The advantage of this is that the "simulated" brain enables the trainer to adapt the training technique to suit each individual pupil. The "matched" brain will be the criterion of whether a certain part of the syllabus needs going over again or not. When the "matched" brain has learnt the task adequately, the human operator must also have done so. The "trainer" then knows it has completed its job, and can shut itself off.

To explain how this is possible, let us describe in some detail a test set-up which has already been demonstrated successfully, in which a simple manual skill, such as would be required by a small office machine, is taught by Eucrates.

The task is to train the operator to use two sets of buttons, representing the co-ordinates of a three by four matrix. These buttons are to be used in conjunction with one





another, so as to pinpoint any one of the twelve positions within the matrix. This set-up consists of:

1. A push-button arrangement (figure 1) simulating the keyboard of the supposed machine.

2. The electronic trainer, complete with "textbook."

3. A display, by means of which the trainer asks his questions (figure 2). Letters, representing each of the positions in the matrix, light up in irregular order and at varying speeds. The operator responds by pressing the two buttons on his keyboard which will locate the required letter.

4. To help him do so, another display (figure 3) may provide helpful information. It consists of a combined representation of both key-

board and matrix, and can show, by lighting up letters and numbers, not only where the required letter is within the matrix, but also exactly which two buttons are required to locate it.

With this set-up, an operator can be trained to achieve speedy and efficient operation of the keyboard in under half an hour, though by normal methods it would take very much longer. The instruction would start with Eucrates signalling very slowly simple letters (such as A in the example shown) while simultaneously lighting up full details in the display at figure 3.

### Syllabus Adjusted

Now a game starts between machine and man. As the man will soon react quickly to such easy stimuli, the machine makes the problems harder. It can speed up the rate of its signals, or cut down on the helpful information. It almost tries to get the operator to make mistakes. But when that does happen it devotes itself to special "coaching" which will remedy the defect. For instance, if it notices that for letter G the operator always gets one of the co-ordinates wrong, it will light up the faulty co-ordinate alone on the informative display. Similarly, all along the line, it will cut out from the syllabus what the operator has successfully learnt, and concentrate only on what he still finds difficult.

That is just one test set-up for this remarkable invention. It is a very simple one, and it would be a mistake to think that Eucrates' possibilities are limited to such instances. Far more complex tasks can be assigned to it—larger matrices, typewriter keyboards, morse code transmitters, accounting machine or card-punching manuals, etc.

Mr. Pask, its designer, also has quite different applications in mind for it, though these have yet to reach the drawing-board stage. There is, for example, the field of flight control. Automatic pilots can deal with

most of the flight details in a modern aircraft, but certain decisions still have to be taken by the human pilot. However, there are so many instruments in the cockpit on which the pilot should base his decisions that it is not easy for him accurately to assess the situation. Already auxiliary computers are being used to process information for pilots, transferring what they glean to some kind of composite display. Eucrates could be adapted to do this job rather better, says Mr. Pask. By "matching" each pilot's individual mental characteristics it could translate the relevant data into a form suited to the individual, and present it to him at the exact speed at which he can assimilate it.

Rather the same principle will apply to operators in automatic factories. To be economic, these have to be run to their critical limit. But this involves the narrowing of the safety margin, and means that policy judgements would have to be made at considerable speed by the human operator. Once again, there is a danger that the information provided by a control panel will be so complicated that the operator will not be able to make full use of it in time unless aided by a data translation device such as Eucrates.

Another field of application offers the new device considerable scope is that of aptitude tests. The difficulty with these is always the standardization of test material. The same material will rarely mean exactly the same thing to different people. But Eucrates offers the possibility of adapting a determined syllabus to the individual mentality of each candidate. By "matching" the candidate's mental processes, it can ensure that all the candidates will at least understand the question.

These applications are still somewhat futuristic, but Mr. Pask firmly believes that they will, before long, have become reality. Meanwhile, at least one large concern is actively considering the possibility of employing Eucrates to train operators of office machinery, and it may not be long before new developments are announced in this respect.

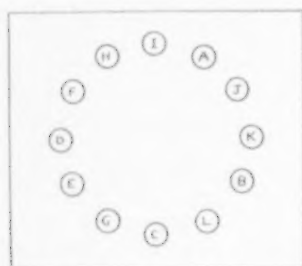


Figure 1. Simulated keyboard

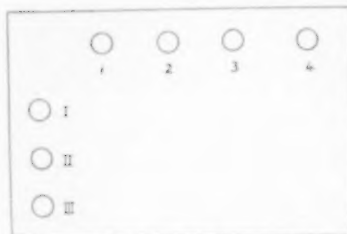


Figure 2. Display for setting problems

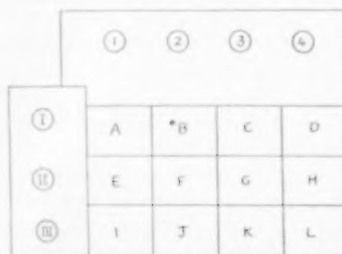


Figure 3. Information panel

# 'Short Cut' Cost Controls for the Smaller Firm

By J. L. HILTON, F.C.W.A., A.M.I.A.A.

*Valuable cost information can be obtained without spending a fortune on an elaborate control system. This article\* describes a number of short-cuts and broad controls—and indicates the types of business to which each of them is most suited.*

FOR various reasons small firms have to seek means of pruning cost information to the absolute minimum. The aim will be to find a balance between full information and inexpensive cost of preparation. What acceptable short cuts and broad controls are available?

**'Partial' Controls.** There are what may be called the 'partial' methods—*ad hoc* reporting, partial analysis, and partial recording. The first of these involves the routine recording of all basic information concerning operation times, material usages, etc.

But routine reports give broad controls only. For example, in a bulk food processing industry the weekly cost report might give material, wages and overhead cost per ton produced. Behind these figures could be variations of: (a) material price; (b) material usage; (c) material mix; (d) wage rate (e) operation times for, say, mixing, cooking, dry-

ing, grinding, packing; (f) volume (g) overspending on expense items and probably many others. If all usages, times and expenditure are properly recorded, then management can ask for *ad hoc* information to be produced when the broad cost figures, company profits, or a 'hunch' suggest that something significant lurks below the surface.

## Hidden Causes

In deciding just how broad the reports can be, it is important to recognize what is likely to be apparent to the manager and what will remain hidden if not revealed as a matter of routine. That the man on the drying oven is lazy and inefficient should be reasonably obvious to the management. Perhaps not quite so obvious would be the fact that the rising actual overhead rate is due partly to lack of work on line X, which absorbs a larger share of overheads than is apparent from its tonnage, and partly to excesses in the use of process steam and gas.

Frankly, I feel that the coarse overhead rates—for example, monthly expenditure divided by monthly output—are perhaps the most dangerous of broad controls. The employment of a pre-determined rate, coupled with the reporting of over- or under-recoveries, is almost universally appropriate. Simple budgeting of expense items is valuable also—but more of this later.

Another form of *ad hoc* reporting is where management nominate certain jobs as requiring watching. In many small firms, routine costing can be confined to basic cost centre controls on activity and efficiency. If, however, a job is undertaken which might prove difficult, it is nominated as a 'costed' job and all bookings quoting that job number are posted to a job cost record. In a more advanced form, it might be only non-standard bookings which are recorded, thus giving a form of cost variation.

The *ad hoc* technique puts a high premium on direct managerial control, but avoids the cost of analysing and reporting data on a great many routine tasks which may safely be ignored 99 times out of 100.

The second of the 'partial' methods involves a routine partial analysis of full recorded data. This does suggest a semi-permanent differentiation between what shall be analysed and what shall not. The manager may decide that he wants to see detailed routine reports of machining costs, but is not interested in an analysis of trimming, finishing and packing bookings.

Partial recording carries the approach a stage further and suggests that prime recording can be abandoned for certain activities or product lines, since reasonable efficiency and economy are assured. I can only envisage such a practice being appropriate where the relevant products and processes have remained unchanged for many years and profitability can be assessed from short-term profit-and-loss accounts. The method seems highly dangerous, however, unless backed by periodical test costs.

\* Condensation of a paper read at the 7th Residential Summer School of the Institute of Cost and Works Accountants.

**Standard Costing.** In many small firms the provision of sound basic data, through which significant matters requiring further investigation can be detected, can best be found in a simple system of standard costing.

Let us consider a practical case. A metalworking firm with, say, 50/100 employees make die castings on a batch basis for a wide variety of customers who normally provide their own drawings. Historical costs are compiled progressively for each order, batch costing being impossible due to a tendency for batch identity to be lost by merging or splitting as the parts move from operation to operation. (Thus, at any one moment some castings in a batch may have cleared more operations than others.)

An order may take many weeks to complete, and the costing system frequently reveals significant losses only when they are unfortunate history. Moreover, the use of a single overhead rate results in unprofitable orders being unwittingly carried.

At first glance the variety of work does not indicate a fruitful field for a change to standard costing. But suppose that as a basis for each quotation it is normal practice to prepare a technical estimate giving:

- 1—Tool-making time
- 2—Metal requirements and current market price of the metal
- 3—Casting time and casting machine to be employed
- 4—Ancillary machining operations
- 5—Finishing processes
- 6—Labour cost of above operations by application of anticipated 'actual time' and piece rates
- 7—Overheads as a percentage on labour.

Clearly, then, the company are selling on the basis of recognized standards of performance. The technically-estimated times give the basis for time standards—an essential element of standard costing.

The obvious simple and inexpensive control method is probably to measure labour efficiency (time allowed divided by time worked), wage rate variances and activity by opera-

tional groups. If, however, management feel that their primary need is to be told which jobs are 'going wrong'—whilst they are going wrong—then a different approach to simplicity is required.

This may be an occasion for nominating, on acceptance, jobs which require individual costing, relying on operational group data for routine control. But I would like to go further and show how, by abandoning some of the cherished practices of the accountancy profession, a very simple yet effective answer can be offered which gives management the information they want.

Firstly, wide differences between the capital cost of facilities utilized in the manufacture of one job and another indicate that the 'percentage on labour' overhead rate should be abandoned in favour of a cost centre rate. Additionally it should be noted that the labour is a very small element of cost; the machines are all-important. It is unnecessary, therefore, to go to great lengths to pick up details of labour variances. The inclusion of labour in the cost centre rates is a logical step.

As a corollary, detail relating to labour and overheads is abandoned in cost estimates. In their place is given the estimated actual time and

cost at the appropriate rate per 100 off for each relevant cost centre. (See figure 1.) Estimated actual time becomes standard time for cost control purposes.

The next point to realize is that fundamentally we are interested only in time variations. Recording can be in this medium, with the application of money as a final calculation. The cost system suggested is then no more than this:

- 1—For each job a cost variation card (figure 2) bears in respect of each cost centre
  - (a) estimated time per 100
  - (b) cost centre rate per standard hour
- 2—The cards are compiled progressively from time bookings in respect of each applicable cost centre to show
  - (a) date
  - (b) quantity produced (output)
  - (c) actual hours of operation (time taken)
- 3—Weekly, or daily if required, the total quantity processed at each cost centre is converted to equivalent standard hours (i.e. at the estimated output rate). The resultant difference in hours between actual and plan is evaluated at the cost centre rate to produce a cost variation. Significant variations are reported immediately to the management.

The expression 'actual hours of operation' is intended to embrace all bookings, piece-rate and day-rate, for whatever purpose. For our small concern employing a comprehensive cost centre rate the important thing is the overall time. Any further investigation must come under the *ad hoc* heading.

The example permits yet another comparison of the broad with the detailed approach. Heating of dies before casting can be quite an important element of costs, especially if an order comes to be broken down into many small batches. The most elementary practice is to include heating in overheads; the half-way house is to debit a control account with the periodical cost of gas—if that is the medium used—and credit it with

## 8 work-saving Tips

1—Avoid introducing shillings and pence into all book entries, allocations and profit statements involving approximations.

2—Where greater accuracy is required, employ decimalized pounds or shillings; it facilitates calculations and the presentation of data.

3—Record and analyse as much as possible in basic terms (e.g. hours worked or piece parts produced), converting to sterling only when final figures are required.

4—Combine stock accounts where control can reasonably be exercised over the joint value (e.g. work-in-progress and finished parts).

5—Limit perpetual audit to costly items; carry out the check only when the stock level is low.

6—Eliminate routine book-keeping that adds nothing to control.

7—Utilize quantity standards and quantitative measures wherever little is to be gained by conversion to sterling; in particular where such data is already prepared as a routine matter for technical or production control purposes (e.g. percentage machine utilization or operational activity).

8—Do not scorn pencilled and rough prime data in the cost department if it is basically sound. If routine data for management is well prepared in manuscript, do not incur the additional cost and loss of time involved in typing—present it in the manuscript form.

[illegible]

Figure 1

The basic forms used in the simplified 'small firm' method of standard costing described on the opposite page

[illegible]

Figure 2

the opposite page

total recoveries; the most precise method is to meter every machine and throw up a heating variance against allowed (estimated) usage per 100 castings. It is all a question of the cost of costing compared with the possible savings.

What is done about materials? The facts are that the metal ingredient in quotations must necessarily be made on current prices, and process losses are very small (a scrapped casting is remelted). Thus the only variation worth measuring is whether actual purchases are made advantageously or adversely against the market price trend. So we debit a control account with the book-value of the total issues to jobs each week, and credit it with the quotation material values relative to work completed. A credit balance reveals a profit on the market, a debit balance a loss.

**Control Accounts.** The use of a control account is often a valuable way of keeping an eye on expenditure which cannot be watched in detail. The practice also permits the use of average rather than specific rates in costs, since the accuracy of the average can be checked each week.

For example, in the manufacture of furnishes the labour employed to watch the 'cooking pots' may vary from day to day but is of no great significance relative to individual batches. An average rate is adequate in costing the week's output, and can

be verified in total against the payroll charges.

**Short-term Profit and Loss Accounts.** Where routine compilation of detail cannot be afforded, I sometimes feel that the employment of short-term profit and loss accounts is possibly more important than the introduction of conventional broad cost controls. Such accounts, even though embodying a fair amount of approximation, ensure that significant economic trends must be detected, even though the fundamental causes may not be revealed.

### *Avoids Delay*

In respect of approximation, the estimation of outstanding charges for such items as electricity, consumable stores, and freight, is permissible to avoid delay in presentation whilst awaiting tardy invoices. Disregard of variations in stock levels, however, is seldom tolerable.

Where wastage percentages are reasonably consistent, an approximate overall valuation of stock can be derived quite simply from the calculation: Opening stock value *plus* purchases for period *minus* material value of sales for period *equals* closing stock.

This does not, of course, indicate where the stocks are lying and how they have varied by classification. But it does permit the preparation of monthly accounts without either de-

tailed material ledgers or a physical stocktaking.

The use of standard costing undoubtedly facilitates the preparation of short-term profit and loss accounts. From the elementary recording associated with the system described earlier, an unpretentious but most valuable monthly statement could be prepared with little additional effort thus:

	£
Sales revenue .. .. .	100,000
Cost of sales at standard ..	85,000
	<hr/>
	15,000
Add or deduct variances:	
Expenditure in excess of	
Budget .. .. .	650 Dr.
Metal price .. .. .	200 Cr.
Cost centres .. .. .	150 Dr.
Special charges .. .. .	100 Dr.
	<hr/>
	700
Net profit for period .. ..	£14,300

Such a statement could, if necessary, be prepared so as to show the profitability of each product group.

**Marginal Costing.** By the nature of small-scale production, however, there may arise circumstances where marginal costing is particularly appropriate. Such a circumstance may be considered to exist wherever:

- 1—There is a strictly limited number of recognizable and reliable factors conditioning the movement of variable costs.
- 2—Such variable charges constitute the major element of product cost.
- 3—Plant facilities and services are, by their nature, unlikely to be changed or augmented at significant cost from time to time.

A typical case would be a small concern manufacturing commercial perfume compounds. 'Direct materials' are essential oils and synthetics which are processed in relatively inexpensive extraction plant and stills to produce the required odour. These materials are expensive and can constitute up to 90 per cent of total costs. Some handling costs may be classed as variable and can be directly attributed to weight of materials. Processing costs are, to all intents and purposes, fixed. 'Direct labour' may be a chemist

Continued on page 152



# MANAGEMENT AT WORK

## Business in the Clouds

**N**EW role for Britain's prestige-building *Viscount* airliner: the United States Steel Corporation and the Standard Oil Co. of California have ordered *Viscounts* for use as airborne executive suites, with interior layouts specially designed for this unusual function.

Vickers-Armstrong, the makers, report such widespread interest in this application for their product that they have issued brochures containing all the relevant details, and have circularized potential customers with them.

It is not only industry that is aimed at. Already the governments of six countries have placed orders.

## Old 'Uns Compete

**T**UBULAR steel furniture has now been added to the production at Rubery Owen's 'Sons of Rest' workshops for retired workers from their organization. The workshops have entered the open market with these new products, and have already received a number of important orders.

'Sons of Rest,' set up six years ago, has been a particularly successful venture. For four years it has been an entirely self-supporting and largely self-run enterprise.

Already some 40 per cent of work done in the shops is for orders outside the Owen organization. It is hoped that further support from industry will increase this figure.

## Average Wages

**W**ORKERS at the Slough factory of Mars Ltd. have for the past few weeks been receiving as wages an amount equal to the average earnings for their shift cycle, subject to their having worked the hours scheduled for the week. This means that fluctuations in weekly earnings are smoothed out, and employees' private budgets are stabilized.

Preliminary reactions suggest that the scheme is a popular one. But

the firm are appealing for comments and suggestions from the staff, to make sure that it creates no ill-will unnecessarily.

## TV in the City—1

**A** LONDON stockbroking firm, J. and A. Scrimgeour, are pioneering closed-circuit television in the City. A TV link will relay information between their 'box' in the Stock Exchange and the main offices, about a quarter of a mile away.

At the Exchange, a miniature camera will scan a board containing prices of those stocks and shares that are of interest to the firm. The system is expected to save dealers much time that was previously spent on the telephone trying to get an up-to-date picture of the markets.

## TV in the City—2

**A**nother recent TV installation links two branches of the English, Scottish and Australian Bank in Melbourne with the bank's ledger posting department in another part of the city. Customers who want to see details of their account can do so on one of a number of screens at each branch. So that no outside

receiver can pick up the transmission, underground co-axial cables are used, and viewing security is also ensured in other ways.

Remote control enables the operator at either end to move the image in any direction, so the customer can get a clear view of any part of the document that is being screened, or even a close-up of it.

This is the first permanent banking television installation in the Commonwealth. An American bank already has TV for signature checks, with screens on the clerk's side of the counter only. And as long ago as 1952, Glyn Mills and Co. temporarily used a miniature installation to link provincial premises with their London head office.

## Illuminating Facts

**S**OME effective presentation aids were used at the series of meetings which the National Cash Register Co. staged recently in the Royal Festival Hall, London.

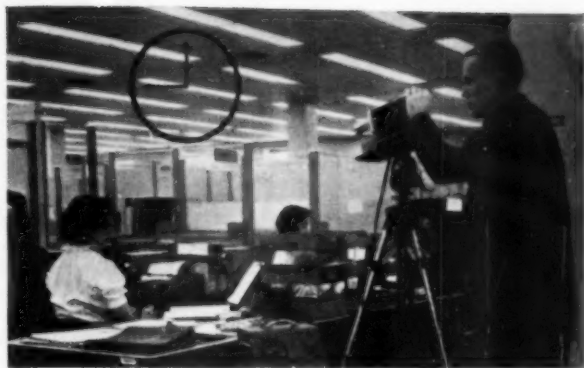
During the talk which preceded a demonstration of mechanized payroll accounting, the speaker emphasized his points by turning over a batch of 'headline' placards. These were lettered in fluorescent coloured inks and illuminated by an ultra-violet lamp concealed in the base of the stand—producing a striking effect in the subdued light of the lecture room.

Two slide projectors threw pictures



Account statements are viewed by customers of a Melbourne, Australia bank at this television installation (see TV in the City—2)





*A new type of time-lapse photography is used here to investigate an American office worker's routine (see Time Condensed). The camera will take pictures automatically at set intervals*

on to screens set on either side of the speaker's rostrum. Delays in changing slides were eliminated; and since it was possible to project specimen paysheets and other forms in two parts, their contents were always legible.

For the demonstrations themselves, held in a separate part of the room, the movements of eight accounting machine operators were 'synchronized' by using a tape-recorded commentary. This arrangement enabled every member of the audience—which divided into groups around the machines—to see and hear what was going on.

#### Help-Yourself Amended

CUSTOMERS are almost unanimous in their praise of Britain's first self-service stationery and office sundries store—a branch of H. J. Ryman in Bond Street, W.1. For the firm, the new arrangement has meant increased trade without extra staff, while congestion and waiting time at peak hours have been eased.

But since the opening in August several modifications have been found advisable:

*Window displays* have been installed. The 'open front' originally installed was not enough advertisement to catch passing trade.

*Section signs* were found necessary to guide customers towards the range of items that interested them.

*Two-way traffic* is being restored. Food-store type regimentation is unnecessary with this sort of merchant-

dise. 'Browse-around' rather than 'buy-and-depart' is the better system, say Ryman.

Success in Bond Street has encouraged the firm to go ahead with converting other branches. Shops at Watford and in Gt. Portland Street are already being rebuilt. Modern decor, logical layout and truly comprehensive stock on the open shelves are the main points that will be observed.

#### Goodwill by Post

LEDERLE Laboratories, American manufacturers of medical supplies, provide picture postcards, showing a view of one of their plants, free of charge to employees. The cost is reckoned at about half a cent a time. To date some 500,000 cards have been distributed in this way.

Many companies in this country

have superb pictures of their plant or processes in their files. Lithoreproductions in postcard form would cost very little indeed, and there is no reason why the idea should not catch on over here. Even if a small charge were made to avoid waste, employees might still find it more convenient to send 'factory' cards than go to the trouble of buying others.

#### Time Condensed

MEMOMOTION: that is the name given to a development of time-lapse photography announced by America's Du Pont company. Walt Disney used the technique to produce some of his nature films (in which flowers can be seen growing, buds opening, etc.). It has now been found to have important industrial applications.

Memomotion uses intermittent exposures on movie film to condense an action, event or series of events. A camera mechanism with variable-speed drive is set to take pictures automatically at speeds ranging from one picture every 20 minutes to one per second.

In the United States the technique has been used for such projects as studying the filling and emptying of car parks, shunting operations in goods yards, and materials handling procedures. A wide range of other uses is envisaged by the makers.

Almost any motion camera can be adapted for Memomotion, the cost in the U.S. being about £1,000.

## Business Bookshelf

THE MEASURING OF WORK IN THE OFFICE (British Institute of Management) 4s. Prepared under the guidance of a committee of the B.I.M., the Office Management Association, and the Institute of Cost and Works Accountants, this booklet sets out both the reasons for measuring office work and the various methods of doing so.

BRITISH ECONOMIC STATISTICS by E. Devons (Cambridge University Press) 22s. 6d. Professor Devons, in this introductory text, describes the sources and construction of British

population and economic statistics, other than those of public finance. Thus he gives the background to most of the indices used in the "Prospect" charts of BUSINESS. A useful reference for market research officers as well as for economic advisers.

DYNAMIC FACTORS IN INDUSTRIAL PRODUCTIVITY by Seymour Melman (Blackwell) 22s. 6d. A most extraordinary book which traces the growth in mechanization of the motor industry since pre-war, and compares British with American

industrial progress. It concludes that the main urge to increase productivity comes from higher wages, bargained for by the trade unions, who thus force up costs and oblige managements to economize on labour and employ more machinery. Indeed, it is argued that rising wages not only oblige management to employ more machinery, they also make it more economic to use a higher ratio of machinery to labour. Some credit must be given to this as a plausible economic theory, but it paints a very pessimistic picture of management, who are apparently not interested in improving productivity off their own bat, without the spur of rising labour costs. The book also suggests a grim outlook for Britain, a country which is much more dependent on overseas trade than the United States. Our prospect of being driven to higher productivity as a result of trade union pressure for higher wages is limited by the fact that this same trade union pressure causes balance of payments troubles, which in turn result in capital restrictions that damp down the rate of investment. The author does not even mention, let alone face up to this vicious circle, which makes it so important for British management to increase efficiency without waiting for the trade unions to force them to it.

#### SUCCESSING WITH PROFIT

SHARING by J. J. Jehring (Profit-sharing Research Foundation, 1718 Sherman Ave., Evanston, Illinois) 54s. The author sent a questionnaire to over 200 profit-sharing companies and had interviews with over 100 executives and employees in 18 companies. His book contains many useful recommendations for setting up a successful profit-sharing plan, but even more important is the insight it gives into the psychological attitudes of employees towards the installation of a profit-sharing scheme.

#### STUDIES OF OVERSEAS SUPPLY

by H. Duncan Hall and C. C. Wrigley (H.M.S.O. and Longmans) 37s. 6d. Part of the Official History of the Second World War, this volume deals mainly with the various joint supply missions and boards set up in Washington, London and elsewhere, for arranging the production of war materials in North America and the Eastern Hemisphere, for the British forces. It provides a detailed study of various conflicting points of view and interests, and how they were harmonized. But its value lies more in what it tells of the type of formal machinery set up in such circumstances, rather than in what it says of how the leading characters actually behaved—or should have behaved.

THE DIRECTORS' DIARY, 1957 (Newman Neame) 63s. goatskin, 35s. buckram. This has been so successful during the last two years, that it has now been officially adopted by the Institute of Directors. A useful Christmas gift.

BRITAIN AND THE SUEZ CANAL by D. C. Watt (Royal Institute of International Affairs) 2s. 6d. A pamphlet outlining the legal and historic position, in the light of the canal seizure.

ORGANIZING FOR PRODUCTION by B. H. Dyson (Institute of Industrial Supervisors) 2s. 6d. A quick-run-through pamphlet.

THE PERSONNEL FUNCTION OF MANAGEMENT by M. B. Forman (Institute of Personnel Management) 2s. Written by the former director of the I.P.M.

DEMOGRAPHIC TRENDS IN WESTERN EUROPE 1951-1971. 9s. A report by the Organization for European Economic Co-operation, 2 Rue Andre-Pascal, Paris 16.

EMPLOYMENT OF COLOURED WORKERS by Leslie Stephens (Institute of Personnel Management) 3s. 6d. Report of a survey in the Birmingham area.

MANUAL OF MODERN BUSINESS EQUIPMENT (Macdonald and Evans). Further booklets in the series, now available, are "Charts and Planboards for Visual Control Systems," "Reproduction Processes Pt. II" (photo-copying and micro-filming), "Inter-communication Equipment (Telephoning)" and "Wood Office Furniture," all at 4s. 6d. each. The complete manual is being published in sections for the Office Appliance and Business Equipment Trades Association.

THE LAW RELATING TO MONOPOLIES, RESTRICTIVE PRACTICES AND RESALE PRICE MAINTENANCE by Viscount Hailsham and Robin McEwen (Butterworth) 22s. 6d. Number 96 in the publisher's annotated legal service, this book presents the relevant legislation and a detailed guide to it.

BASIC ROAD STATISTICS 1956 (British Road Federation) 1s. A useful pamphlet for those interested in the campaign for better roads.

KEY TO PROFITS TAX (Taxation Publishing Co.) 10s. This at-a-glance guide, with thumb-index, is a companion to "Key to Income Tax."

INTERMEDIATE PRICE AND INCOME THEORY by M. M. Bower (Bower and Bower) 35s. The title of this 500-odd page book is accurate enough for the professional economist, but misleading to the layman. For in fact this book, by an American professor, provides a good grounding in the major part of economic theory.

KEY TO INCOME TAX AND SURTAX, 1956-57 (Taxation Publishing Company) 10s. Latest edition of this annual, thumb-indexed booklet brings it up-to-date with the Finance Act, 1956.

PERSONAL POWER THROUGH CREATIVE SELLING by E. G. Leterman (Windmill Press) 21s. Another American book putting forward the personal philosophy and techniques of a very successful insurance salesman.

TIME RATES OF WAGES AND HOURS OF LABOUR, 1st April, 1956 (H.M.S.O.) 9s. The Ministry of Labour's annual detailed report.

THE MODERN PRINTER'S YEAR BOOK (Bendles) 4s. 6d.

ADVERTISERS' AID (The Newspaper Society) 21s. Annual publication giving advertising rates, mechanical data, etc., for newspapers throughout the British Isles.

THE OFFICE: ITS CHANGING FUNCTIONS AND STRUCTURE. Also CONTROLLING OFFICE PROCEDURE AND IMPROVED OFFICE REPORTS, MANUALS, AND RECORDS. Three pamphlets in the American Management Association's Office Management Series, available through Bailey Bros. and Swinfen at 14s. each.

PROGRESS IN LABOUR-MANAGEMENT RELATIONS (Personnel Services). Also A CRITICAL SURVEY OF CORPORATE INSURANCE BUYING AND MEETING EXECUTIVES' AND EMPLOYEES' INSURANCE NEEDS (Insurance Services). These three A.M.A. pamphlets are also available through Bailey Bros. and Swinfen at 14s. each.

TAX PROBLEMS OF THE FAMILY COMPANY by Milton Grundy (Sweet and Maxwell) 17s. 6d. A very useful little book which sets out, in language understandable to the layman,

## Are Your Costs and Prices Realistic?

Does your thinking take account of changing values? So many things have gone up in price—labour, machinery, supplies, professional services and finished goods. This table, based on the retail price index, gives you a rough set of conversion factors for bringing your values up-to-date. For example, if you spent £100 on a machine in 1931, for which year the conversion factor is 2.71, then you could hardly be surprised if a similar machine now costs £271. It may actually cost more or less, but you would expect values generally to be around 2.7 times the 1931 level. This table will be brought up-to-date every quarter, but published monthly, for handy reference.

Con- version		Con- version	
Year	Factor	Year	Factor
1913	= 3.98	1934	= 2.84
1919	= 1.87	1935	= 2.77
1920	= 1.60	1936	= 2.71
1921	= 1.77	1937	= 2.58
1922	= 2.18	1938	= 2.55
1923	= 2.28	1939	= 2.48
1924	= 2.28	1946	= 1.66
1925	= 2.28	1947	= 1.56
1926	= 2.32	1948	= 1.46
1927	= 2.38	1949	= 1.42
1928	= 2.41	1950	= 1.38
1929	= 2.43	1951	= 1.26
1930	= 2.53	1952	= 1.15
1931	= 2.71	1953	= 1.12
1932	= 2.77	1954	= 1.10
1933	= 2.84	1955	= 1.05

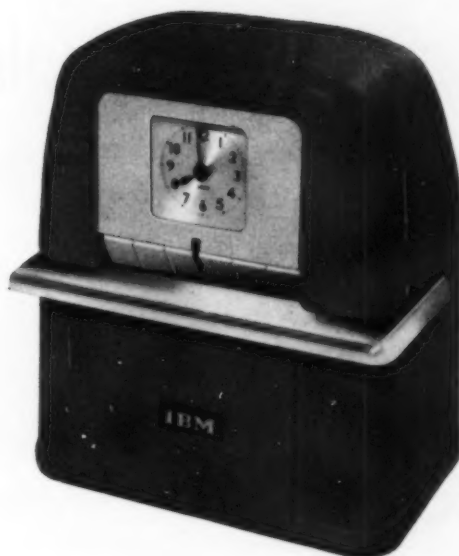
the position as regards expenses, surtax directions, dividends and profits tax, estate duty precautions, etc.

INCOME TAXES OUTSIDE THE COMMONWEALTH, Parts I and II (H.M.S.O.) 35s. Arranged in loose-leaf form, in a very good binder, the first two sections of this book deal with the United States of America and the Republic of Ireland. Other notes on taxes in selected countries will be available in due course. This is a good way of keeping up-to-date on the position of specific countries with which your company is trading. It is a companion volume to "Income Taxes Within the Commonwealth," also published by the Stationery Office.

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# How to Build Better Teamwork

By PETER SPOONER

*This unusually frank case-history describes the progress—and setbacks—of a family firm of builders who have tackled in a forthright manner the problems of eliminating wasteful methods, ensuring greater 'participation' by employees, and improving the quality of management. In three years this development programme has helped to produce a big increase in the volume of their business.*

IN 1953 John McLean and Sons Ltd., of Wolverhampton, launched a systematic attack on the wasteful methods and ineffective planning which so often hamper the work of building firms. They began by using 'scientific' techniques — time study and method study—on a site where they were building about 200 council houses. But the results were disappointing; and within a comparatively short time the management decided that they would get much better results by studying the 'human atmosphere' in which their work was done.

Now, after three years, they assess their progress by saying: "At least we are uncovering the *real* problems

—and uncovering them in a way which brings them to the attention of all members of our organization."

The assessment is modest. During this three-year period, the firm have advanced in many directions. They have adapted themselves, with great success, to a different class of work: the building of private enterprise houses. Their annual turnover has more than doubled. And their labour wastage has been cut to 'factory' proportions—a notable achievement in an industry which has always employed large numbers of casual workers.

The stop-watch period of the development programme was described in an article in the October 1953 issue

of BUSINESS. This reported that much of the work on the 'nursery' site had been studied; that standard times had been set for hundreds of different operations; that the employees were accepting the new system, mainly because it was giving them a chance to earn really substantial bonuses; that some planning techniques had been improved, and that more use was being made of prefabrication.

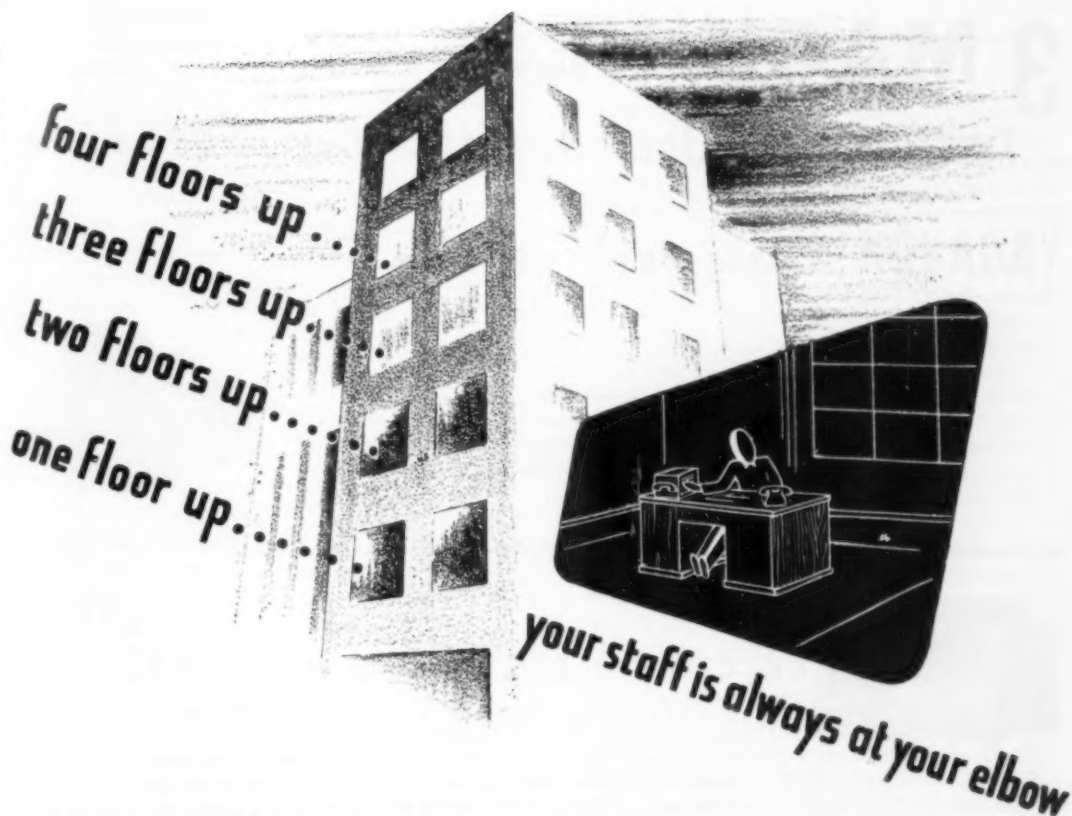
Pretty familiar stuff—if it had been happening in a factory. On a house-building project of this type and size, it was something of a novelty.

Yet the promise of the early days was not fulfilled. Before very long McLeans were deciding, regretfully, that work study on its own would never solve the long-standing problems of their industry: the difficulty of matching the outputs of different teams of men, and the hundred-and-one unpredictable factors which reduced scientifically-prepared plans to a series of *ad hoc* decisions, made on the job by men who were builders rather than managers. . . .

In some cases the new methods collapsed—through inadequate and ineffective supervision — almost as soon as the work study engineer had turned to something else. Economies made by improving individual operations were insignificant when compared with the wastage which occurred *between* operations. Moreover, the management began to suspect that the new bonus system, based on work study data, was not going to be as flexible as they had hoped. The targets, of course, had been guaranteed; and it seemed that any improvements in management — improvements in planning and organization — would be reflected *only* in the size of the men's bonuses.

So the work study project was abandoned, after it had run for about ten months. Yet even at this stage McLeans had an idea that the time and money which they had spent on it would be justified in due course. By attempting the project in the first place, the management of an old-established family business had shaken themselves up. They were not sure what they were going





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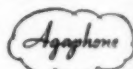
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to do next, but they knew that it was impossible to return to the old ideas and methods.

The fault, they argued, was in people: themselves and their employees. Obviously it was not sufficient that one or two men at the top of a firm should recognize problems and seek answers. The same sort of 'thinking' had to be developed in all their managers and supervisors. And the rank-and-file employees had to be able to see pretty clearly how any changes would affect them.

About nine months later McLeans re-engaged the firm of management consultants who had handled the work study project, and set in motion the development programme which is still in progress today. This programme has three aims:

- 1—To obtain greater co-operation from employees.
- 2—To raise standards of management and supervision.
- 3—To develop better methods of planning and organizing work.

Although the three aims are neatly labelled for the purpose of this article, in practice the methods, and the results, are by no means self-contained. The success achieved in one field has invariably hung on the success achieved in the others.

### **Better Understanding**

Even in a physically compact firm, good 'communication' involves a lot of thought and effort. Obviously there are much greater problems when about 200 employees (and about 80 sub-contractors' men) are dispersed on half-a-dozen sites and move periodically from one to another. McLeans have overcome some of these problems by setting up a system of self-contained production committees, one on each site.

In every case the committee consists of the agent, the section foremen, and three or four members elected by the men working on the site. At intervals of two months they meet for an hour or more in the agent's office. Their chairman is invariably the managing director, Geoffrey McLean.

A summary of each meeting is

sent to the members of all production committees. This ensures that everyone gets a full picture of the company's operations. It also introduces a competitive element — for each committee is anxious to show the others that it is making a substantial contribution to the joint consultation scheme.

Plain speaking is encouraged. McLeans take the view that even destructive criticism (which is rare) gets something off someone's chest. They find, moreover, that the men display a lively interest in all things affecting the productivity of their site, and that criticism often leads to the development of better methods.

### **Top-level Interest**

The presence of the managing director at every meeting has undoubtedly helped to establish the scheme, since it has been accepted as evidence that the firm are genuinely interested in their employees' opinions. But the practice has some drawbacks—apart from the amount of 'top executive time' which it consumes! Probably the biggest snag is that men invariably expect a director to make decisions on the spot. Often Mr. McLean is prepared to do so; but there are times when he has difficulty in convincing the men that nothing can be said or done until the matter which they are raising has been considered by the board. There

is also the danger of undermining the executive authority of the site staff.

Eventually the chairmanship will be taken over by a production manager. This is a new post which McLeans are creating to replace the traditional (and, in their experience, ineffectual) duties of a contracts manager.

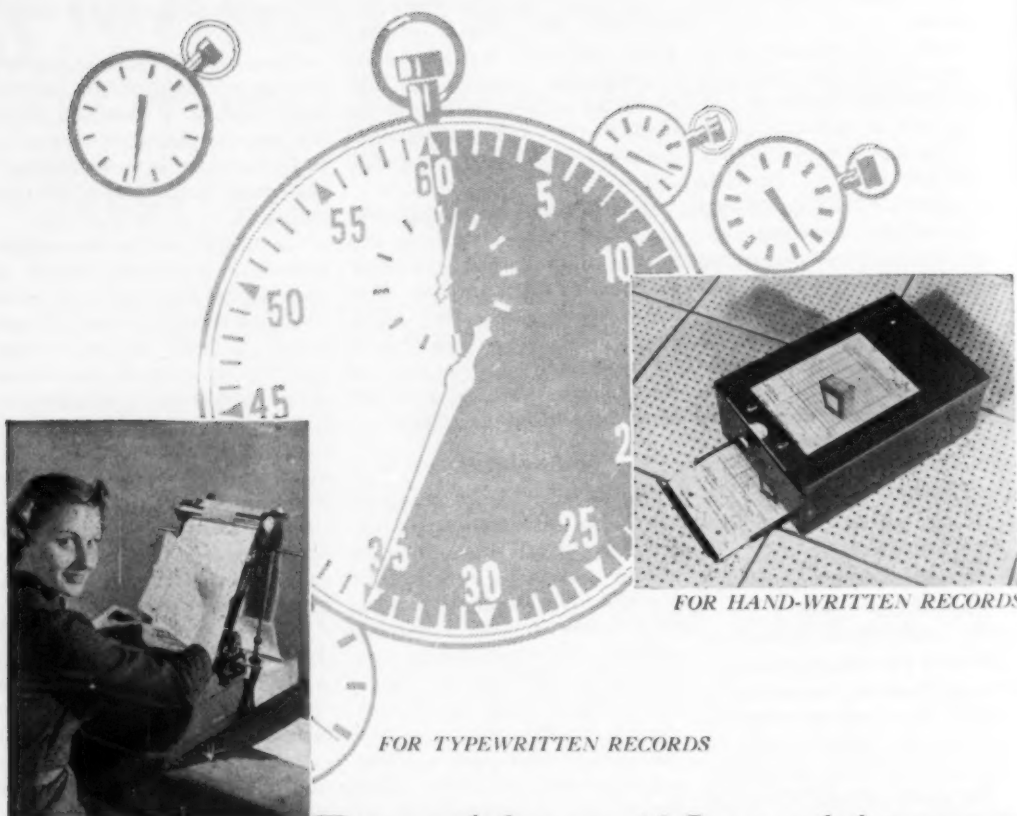
The distribution of the minutes provides a convenient method of clarifying the firm's policy on issues which the committee meetings have helped to bring to the surface. Recently, for example, the minutes of one meeting were accompanied by a letter in which the management explained their attitude towards redundancy. Sometimes copies of letters to the firm's architects or suppliers are attached, showing that the management have acted quickly on complaints or suggestions raised by committee members.

This year McLeans have expanded their scheme by setting up a central committee, on which staff and workers are represented equally. It meets every three months or so, and is concerned with such matters as holidays and training. Copies of the minutes are sent to all members of the firm.

The work of the committees is augmented by more general forms of 'communication.' At this time of year, evening film shows are held

*Each site has its own production committee, through which the men can raise complaints — and suggest better ways of getting the work done*





## Beating the times

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periodically in each of the three areas from which the company's labour is drawn. The programmes are largely instructional, but generally begin and end with a short comedy. Moreover, Geoffrey McLean makes colour slides and 8mm. movies of the operations on different sites, and these arouse much interest. Attendance is voluntary, of course, but as a rule each programme is seen by about half of the company's employees. Occasionally the films are accompanied by short lectures or discussions.

McLeans are now introducing a suggestion scheme which, it seems, will have a more definite sense of direction than most schemes of this sort. The idea is that a special committee of four executives will regularly invite suggestions—*on a short period*—on specific subjects.

Normally the committee will ensure that the men's ideas are concentrated on aspects of the business which the management themselves are reviewing. In this way McLeans hope to avoid the fate of schemes which fail because the machinery is incapable of dealing quickly with suggestions on a wide variety of subjects.

Under the firm's bonus scheme (now based on a combination of conventional rate-fixing and the original work study), the employees' earnings are generally high. The management believe, however, that 'job satisfaction' is an equally important consideration. At all times they are trying to persuade their workers to accept not only the rewards but also the responsibilities of 'participation'; and to ensure that site-workers identify themselves with the sale of the houses which they are building.

Does joint consultation get results? After trying it for two years, McLeans are convinced that the answer is 'yes.' Certainly there is plenty of evidence that the men take the scheme seriously and are at least prepared to admit that it is a 'good thing.'

After attending a meeting of one of the production committees, the divisional secretary of the Amalgamated Union of Building Trade Work-

**Obviously it was not sufficient that one or two men at the top should recognize problems and seek answers. The same sort of 'thinking' had to be developed in all managers and supervisors. And the rank-and-file had to be able to see pretty clearly how any changes would affect them.**

ers wrote in the union journal: "There is no doubt that the men feel that they are being treated in an adult way and are responding accordingly. In hard facts, they are responding with a 25 per cent increase in productivity. . . ."

Maybe this explains why about 100 building workers have put their names on a waiting list to join the firm.

### **Better Supervision**

The unsuccessful work study experience disclosed the weakness of site management, so it has been in this field that McLeans have concentrated much of their effort. For two years they have been striving continuously to produce more supervisors and better supervisors.

Their methods are simple. They believe:

- 1—The only way to find out whether a man can do a job is to let him do it.
- 2—The best way of developing a man after he has accepted a job is to create the sort of conditions in which he can see with his own eyes the real problems of management.
- 3—Top management must support him and feed him with ideas. But they must let him *act*, as far as possible, on his own initiative—and discover by experience the effect of his actions on operations outside his own sphere of influence.

The policy of 'letting men see for themselves' has been applied in many ways. For instance, they are continuously encouraged to organize jobs around the work which has to be done, rather than on the types of men who are needed to do it. The

old idea of employing trade foremen has been abandoned. Now a site agent has three *section* foremen under him, each responsible for a complete stage of the building operations: (1) roads, excavations, substructures, etc.; (2) erecting the shells; and (3) finishing.

The big advantage of this set-up is that foremen are no longer involved personally in 'trade warfare.' By virtue of their responsibility, they see very clearly the importance of planning work so that the operations of different trades are dovetailed as neatly as possible.

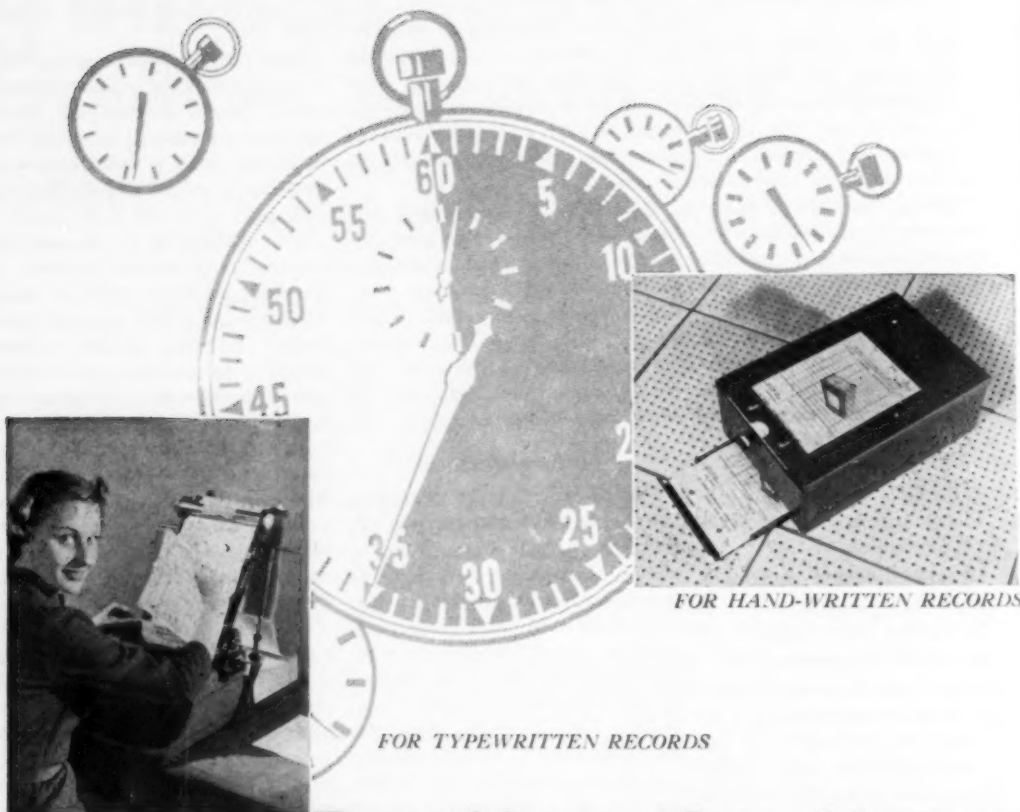
Moreover, the production committee meetings open their eyes to the fact that continuity of employment depends very largely on the way in which the operations of men on different sites are co-ordinated. If, for example, the substructures on their own site are delayed, there may be a period of idleness for a gang of bricklayers who have just finished a job elsewhere.

### **All-round Improvements**

During the work study period, McLeans learned that getting 'perfect' results in isolated operations was less important than making relatively small all-round improvements. This principle has been applied to the training and development of supervisors. From an early stage, the management have appreciated that bringing in new blood would solve very few of their problems; above all, they had to make the most effective use of the men whom they already possessed.

It might be that one of their existing foremen had more trade experi-





## Beating the times

Speaking of the application of "Econoset" Continuous Stationery and the "Econojet" Typewriter Attachment to the typing of Invoices, Works Orders, Despatch Notes, etc. a customer said —

*"It has saved some 50% of our typists' time, no overtime now — they beat the clock easily."*

May we show you how you too can beat the times by

- Saving time in the preparation of essential forms —
- Eliminating unnecessary repetitive typing and handwriting —
- Providing information simultaneously to all departments — without incurring capital cost on ancillary equipment?

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### Econojet — Econoset — Econorite

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periodically in each of the three areas from which the company's labour is drawn. The programmes are largely instructional, but generally begin and end with a short comedy. Moreover, Geoffrey McLean makes colour slides and 8mm. movies of the operations on different sites, and these arouse much interest. Attendance is voluntary, of course, but as a rule each programme is seen by about half of the company's employees. Occasionally the films are accompanied by short lectures or discussions.

McLeans are now introducing a suggestion scheme which, it seems, will have a more definite sense of direction than most schemes of this sort. The idea is that a special committee of four executives will regularly invite suggestions—over a short period—on specific subjects.

Normally the committee will ensure that the men's ideas are concentrated on aspects of the business which the management themselves are reviewing. In this way McLeans hope to avoid the fate of schemes which fail because the machinery is incapable of dealing quickly with suggestions on a wide variety of subjects.

Under the firm's bonus scheme (now based on a combination of conventional rate-fixing and the original work study), the employees' earnings are generally high. The management believe, however, that 'job satisfaction' is an equally important consideration. At all times they are trying to persuade their workers to accept not only the rewards but also the responsibilities of 'participation'; and to ensure that site-workers identify themselves with the sale of the houses which they are building.

Does joint consultation get results? After trying it for two years, McLeans are convinced that the answer is 'yes.' Certainly there is plenty of evidence that the men take the scheme seriously and are at least prepared to admit that it is a 'good thing.'

After attending a meeting of one of the production committees, the divisional secretary of the Amalgamated Union of Building Trade Work-

**Obviously it was not sufficient that one or two men at the top should recognize problems and seek answers. The same sort of 'thinking' had to be developed in all managers and supervisors. And the rank-and-file had to be able to see pretty clearly how any changes would affect them.**

ers wrote in the union journal: "There is no doubt that the men feel that they are being treated in an adult way and are responding accordingly. In hard facts, they are responding with a 25 per cent increase in productivity. . . ."

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*McLeans' bricklayers are laying more than 1,000 bricks a day—without any adverse effects on quality. This results partly from a good bonus system, partly from the sense of 'participation' which the management are fostering among their employees*

ence than 'management potential.' But if his integrity (an essential quality of leadership) had earned the employees' respect, it would be unwise and unfair arbitrarily to bypass him in favour of a younger, more promising man. A sustained attempt should be made to improve his weak points.

Of course the firm also appreciate that trial-and-error methods involve certain dangers. If a man is promoted prematurely and then finds that the responsibilities of his new job are too heavy, the loss of prestige which he incurs may have unfortunate consequences.

For this reason McLeans have put into writing a clear-cut promotion policy, which provides as much opportunity as possible for men already with the firm, yet leaves open a reasonable number of escape-hatches. Every promotion is made, initially, on a temporary basis. At the end of three or six months either the promotion is confirmed or the man is given the option of returning to his former job.

It is pointed out that while a man who has served the company for some time will be treated more leniently than a newcomer during the probationary period, once he has accepted a permanent promotion his previous record will not be as important as the way in which he handles his new job. If he fails in it, he is more likely to be dismissed

than demoted. Thus the responsibility of deciding whether a good tradesman will make a good foreman, or whether a good foreman will make a good agent, is divided between the firm and the man himself.

McLeans vary their tactics to suit individual cases. Here is an example. An experienced supervisor was sent on an eight-weeks general management course. But instead of reinstating him in his old job when he returned from the training school, the firm asked him to take over one of the production studies which the resident consultant had been carrying out.

### *Outside Training*

As he handles this work, the supervisor sees more objectively than in the past the effects of bad planning and bad organization. But he has no authority to try to cure them. In one sense, he is deliberately being 'frustrated.' The pay-off will come later, when he again takes up a position of real authority.

So far McLeans have made only limited use of outside training facilities. For there is some danger, they see, in being 'selective.' To send only 'blue-eyed boys' on courses would create ill-feeling; and it would be just as undesirable to go to the other extreme and send only the 'weak links.'

The company have preferred to

wait until they are in a position to send everyone. What they envisage is a private 'sandwich' scheme under which each supervisor goes on as many as three courses at different stages of his development. At each course he will cover much the same ground, but McLeans recognize the futility of expecting building workers to swallow at one 'go' the concentrated knowledge which a management training college provides. This winter, eight of their section foremen are attending residential courses at Burton Manor College.

Although the emphasis is on 'job satisfaction,' McLeans have not ignored the value of financial rewards. Last year, a new supervisors' bonus scheme was introduced. This reflects as fairly as possible the skill and qualities of leadership which each supervisor puts into his job. Bonuses are calculated in terms of site productivity, taking into account such factors as the manpower/staff ratio, the bonus earnings of the operatives, the labour wasted on unproductive work, and the amount of absenteeism.

### **Better Methods**

The improvement of working methods has sprung very largely from the other activities; particularly from: (1) developing a 'planning attitude of mind' in all managers and supervisors; and (2) gradually shifting more and more planning responsibility on to these men as they become equipped to deal with it.

In the past, haphazard methods were generally regarded as good enough; or, at least, as unavoidable. Now, however, the company and their consultants have drawn up a complete system of planning and organizing procedures. Their aim has been to provide effective links between head office departments and the building sites: to give as much authority as possible to the man on the job, yet tighten the management's control over the operations as a whole.

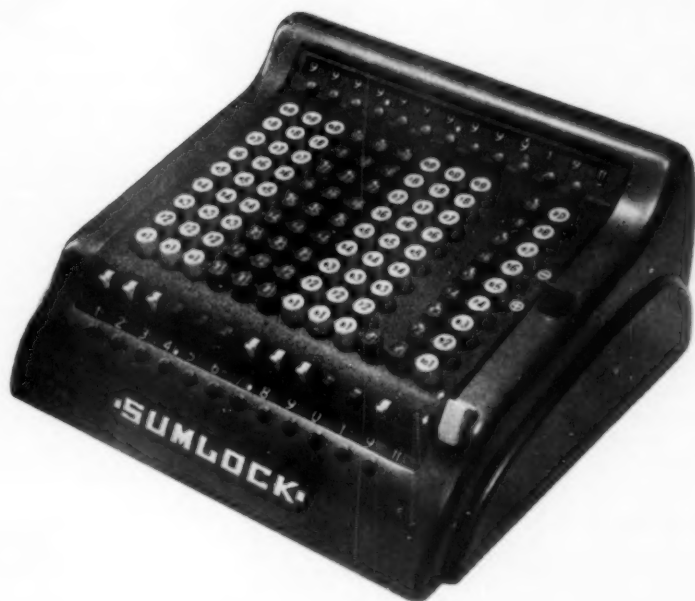
An example of the new procedures is the weekly planning sheet which a site agent completes in consultation

*Continued on page 150*

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Model 6755L

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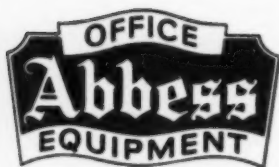
The models illustrated represent a small selection from a wide range of equipment. A fully illustrated catalogue will gladly be sent on request.



Model 6702



Model 6708

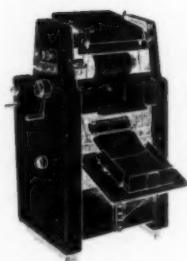


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# How Offset Litho Aids Office Printing

By A. H. RUSSEL BIRCH

Every year business expenditure on stationery and publicity material increases. By producing this work themselves with small offset litho machines, many firms find that they can obtain savings of up to 50 per cent. This article gives three case-histories.

**D**URING the past few years, company printing services have become an increasingly important part of office routine. There are many reasons for this development: the need for faster communication; savings in expenses; a desire for greater self-sufficiency. But perhaps the underlying incentive has been the growth of offset litho printing techniques.

Speed is the major advantage in the offset process. By printing from specially-treated paper plates or from photographed plates of metal construction, a considerable saving in time is gained. This is mainly due to elimination of 'make-ready,' an essential part of the letterpress printing method. Furthermore, offset machines developed for office use occupy very little space.

An average non-commercial machine

which can meet most office requirements, costs the equivalent of four or five standard typewriters. It is capable of delicate and high-quality work, including colour printing.

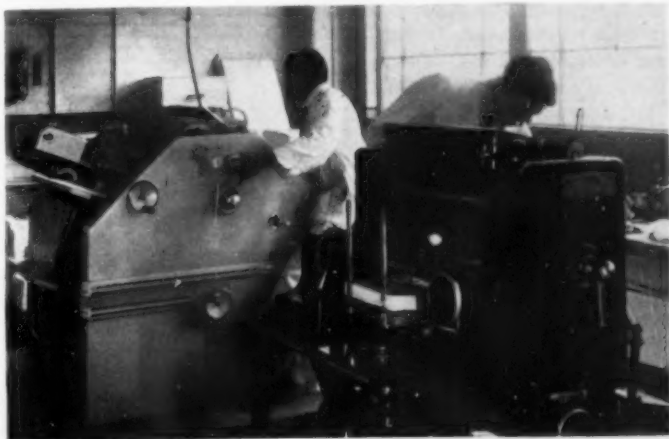
Versatility is the second big feature of offset printing in the office. Users are able to produce a large share of their advertising material in two, three or four colours; the hair-line register achieved with colour work on office machines is generally up to the standard of most commercial printing. And their flexibility extends even to the printing of routine forms. Most presses can print both copy and illustrations on anything from the lightest weight airmail paper to heavy card.

Producing a full range of office stationery — such as works orders, ledger sheets, invoice forms or time cards—merely involves fitting the ap-

propriate plates to the press. No more complicated is the actual printing of illustrated manuals, catalogues or price and parts lists, either in colour or black and white.

Each item of stationery has its own plate, generally stored in fire-proof safes on company premises or held by the plate-makers. The compact form of storage is the third important advantage offered by offset printing. It eliminates the tying up of expensive type or valuable space, as happens when formes of letterpress type are stored.

Another benefit of the offset litho method in the office is that an important piece of information can be printed at short notice, simply by changing the plate and running off the requisite number of copies before continuing the normal work. When an 'urgent job' is delivered to a



At these presses, the Midland Electrical Manufacturing Co. Ltd., Birmingham, produce nine-tenths of their printed requirements, excluding advertising material



commercial printer an additional charge is tagged on to the bill; otherwise it must wait its turn for press time.

Most companies who use offset machines have developed economies of their own. Here are three case-histories.

#### Case-history 1

AS manufacturers of a large variety of products, from switch and fuse gear to space and convactor heaters, Midland Electrical Manufacturing Co., Birmingham, long ago realized the value of establishing their own foundry and pottery works. Following this policy of operating as nearly as possible on a self-contained basis, it was natural for the firm's printing department to develop into an independent unit.

Started about 20 years ago with a small offset press, the department has expanded rapidly. The modest work—letterhead forms, invoice orders and time cards—handled in pre-war days has been developed to include such ambitious efforts as a 40,000-copy issue of a four-page tabloid size newspaper, and 36-page catalogue reprints.

To make possible this expansion, the company have invested in more versatile presses of greater capacity, and a variety of supplementary equipment, including a power guillotine, a folder and a perforator. They are about to install a collator.

Excluding advertising literature, M.E.M. produce 90 per cent of their printed requirements. These range from a few dozen departmental plan drawings to an annual, two-colour label order topping five million and absorbing some six tons of paper.

The company use two offset machines. One has a maximum printing area of 23½in. by 17in., which enables it to undertake display pieces and large works forms, or to increase output of smaller work by printing more copies at a time. The other—a smaller machine—has the relatively high speed of up to 5,200 impressions per hour, can take a paper size of 20in. by 13½in. and offers a printing area of maximum size 17½in. by 13in. It can also print on almost any type of paper

*The work handled by company-owned offset machines ranges from simple labels and vouchers to intricate instruction manuals and four-colour advertising pieces*



or board, and is capable of reproducing superimposed colour work.

Both these presses are in constant use, whereas in the early days, there were periods of idleness.

Initially, the printing department produced all the company's time cards. Investigation showed that by giving this job to a speciality house, the additional expense would be recompensed in freeing the company's presses for more profitable work. On the whole, however, the department is able to produce most of the firm's requirements cheaper than an outside printer, and in considerably less time.

#### No storage problem

With the exorbitant cost of tying up space and type, it is doubtful whether any printer would be prepared to store formes of type equaling the thousands of plates kept safely and compactly by M.E.M. in one fireproof safe. Their collection of plates for carton labels alone totals 1,500.

To overcome some drawbacks of offset printing, the company adopted

a carefully-planned control system. Biggest disadvantage lies in the alteration of forms; once a plate has been produced, changes in the subject matter can be made only by scrapping the original and preparing a new plate. But by standardizing forms, this problem has been virtually eliminated. Where possible, moreover, forms have been combined, thereby necessitating fewer press runs.

Up to about two years ago, the department used relatively small offset presses and was hesitant to experiment with big jobs. But because the machine which they acquired then was capable of doing more than they had previously attempted, the department decided to tackle a very ambitious project.

This was *The Live Wire*, a company publication prepared for the Electrical Trades Exhibition, and also distributed at the B.I.F. Some 40,000 copies consumed one and a half tons of paper. The entire job, from collecting and editing the copy to printing and mailing, took only eight days. It was estimated that if it had been done outside the com-

*Continued on page 109*

## ‘No smoke without fire’



One consequence of expansion in any business is the disproportionate multiplication of paperwork.

The number of records grows, individual records become more complex, momentum slows and profitable activity at the key points of a business is reduced by bottlenecks. When this tendency reveals itself it is high time to investigate the source of the trouble.

Another way of saying “It’s time to see the Paragon representative.” No one is better qualified to advise you upon the reduction and control of paperwork in business. He has a wealth of experience and all the resources of the Lamson Paragon specialist form factories to enable him to advise impartially.

See him when he calls.

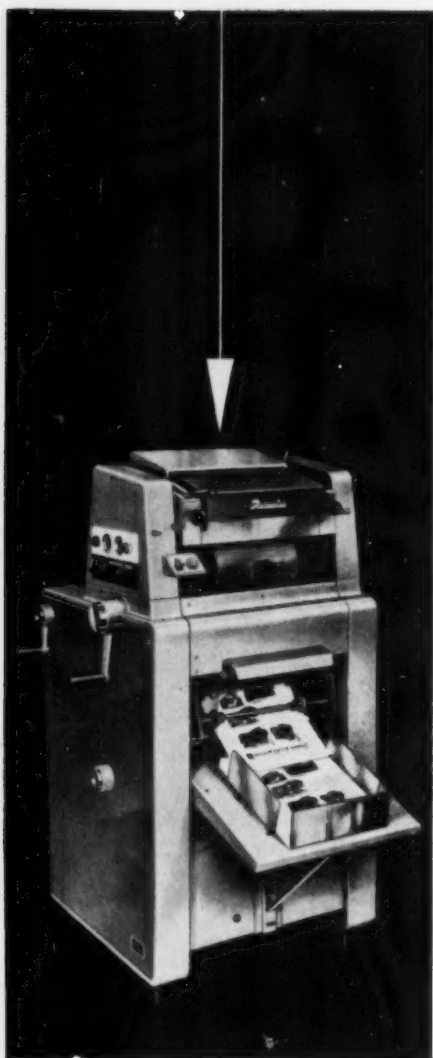


*Specialists in Continuous Stationery Systems for Punched Card Machines, Addressing Machines, Teleprinters, Billing Machines, Typewriters and Autographic Registers. Carbon Copy Books, Sales Check Books, Loose Leaf Books and Forms.*

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small offset

pany, the operation would have taken at least six weeks. The new machine cost £3,000.

Roughly 40 reams of paper are used each week by the company. The bulk of it is devoted to instruction sheets, letter headings and other internal correspondence. With agencies throughout the world, M.E.M. print their instruction leaflets in six languages, and often in runs of up to 30,000.

With most types of stationery, six month's supply is printed at a time. When stock has dropped to one month's level, the department reprints. An eight-week stock of paper is always on hand.

Colour printing is mainly confined to instruction leaflets, labels and catalogue reprints; E. G. A. Moore, printing department manager, prefers to have the bulk of advertising and publicity material printed outside. "We are already making full use of the machines," he explains.

Furthermore, he stresses that they "have to keep within the limits of the machine."—notwithstanding the high-class and intricate four-colour jobs often turned out on presses far smaller and less versatile than theirs. Such work, he says, would turn the department into more than just an office printing section, and would bring it too near the functions of a full production house.

#### Case-history 2

**B**LAW Knox Ltd. manufacture and distribute construction, excavating and road building equipment. Besides their London head office, they have two works departments in this country and distributors throughout the world.

The company purchased their first press—a fairly small one—in 1947. Within three months they had recovered their capital outlay. This machine was used mainly for printing letterheads, office forms and time cards, and it enabled the company to produce such material at half the outside cost—often considerably less.

Soon parts lists, price lists, instruction sheets and more complicated matter began to be printed as well. Furthermore, the department began

experimenting on sales literature and brochures, a field it has previously left entirely to an outside printer. The result was that in 1949 a second and larger unit was purchased.

These efforts proved so successful that the older press was replaced by a more modern model. This unit is capable of printing 4,000 impressions per hour and will take paper measuring up to 13½ in. by 9 in.—its maximum printing area is 13 in. by 8½ in. Feed, inking and damping are all automatic, and the press fits compactly into an area 16 in. by 22 in.

The production of publicity and advertising material, and operation



*Two small offset presses at Consolidated Pneumatic Tool Co., London, turn out publicity literature and forms for the company's offices and branches throughout the world*

and maintenance manuals has now become a major operation of the printing department. Combined with the repetitive printing of internal stationery and forms, it keeps the two presses and three male employees occupied full-time.

Control of their own printing is one of the big advantages of the system, according to A. E. Cutter, manager of the advertising department. As an example, he cites the time-saving which occurred with a recent four-colour advertising folder. The job, involving extensive art work,

had to be top quality; management instructions were to get it out as fast as possible. By setting aside less vital work, it was possible to complete the job in five weeks.

The printing department operates on much the same basis as a commercial shop. Each requisition for stationery is put through as a separate printing job. A detailed printing order is attached, and complete costing records are kept.

#### Case-history 3

**C**ONSOLIDATED Pneumatic Tool Co. Ltd. have been using the offset process for almost 20 years. Before they installed their first press in 1938, they relied exclusively on duplicating and outside letterpress printers for all stationery and advertising material. Now, except for original catalogues and work larger than foolscap size (the limit of their present machines) they produce all literature and forms internally. Their two presses have a capacity of 30,000 sheets per day.

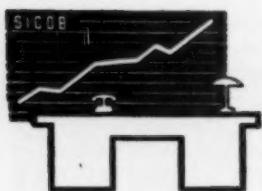
With a head office, two main works, eight provincial offices and branches and agencies throughout the world, the company use standardized forms wherever possible. To simplify paperwork still further, they have designed their stationery to conform with measurements used by their American associates, Chicago Pneumatic.

Their catalogues list 300 varieties of tools. These are made in quantities ranging from dozens to thousands. By taking advantage of the colour printing facilities offered by their presses, the firm have evolved a system whereby literature for each of the four main groups of tools is printed in a colour peculiar to the group. Colour-coding also extends to other bulletins and notices; price changes, for example, are always announced on forms printed in red.

But colour printing is not confined to price and parts lists or company bulletins. Advertising and publicity material for distribution throughout the world is generally printed in two colours. But jobs which run to more than a double-page spread are farmed

*Continued on page 153*





*A push-button filing system, a method of automatically recording production-line information, a new punched card-operated computer . . . these were among the many items which attracted attention at the seventh International Office Equipment Exhibition staged recently in Paris. Here is a report written specially for 'Business' by ROBERT SPARK.*

## Paris Office Equipment Show Highlights Automation

THE accent was on accounting and calculating equipment, brighter colours and "l'automation" at the seventh International Office Equipment Exhibition held at the Exhibition Park, Porte de Versailles, Paris from October 11 to 21. Bigger in area (214,000 sq. ft.) than ever before, and with 250 exhibitors, the exhibition featured a mass array of machines and equipment from many different countries. The attendance was appreciably higher than in 1955.

Although only French firms, or French subsidiaries of foreign manufacturers, are allowed to exhibit, there was still not enough space available to satisfy all demand. This does not mean that France is rapidly developing a vast office equipment industry (although it is growing steadily) but that more foreign firms wish to exhibit through French concessionaires and distributors. In fact it is reasonably safe to say that the foreign products outnumbered French productions.

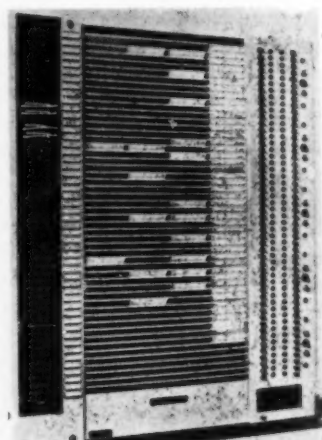
A cross-section of the exhibitors expressed the view that sales of office equipment were good at present and getting better. One of the reasons which they gave was that French firms did not re-equip their offices after the war to the same extent as firms in other countries, and that within the last three years, they have suddenly realized the need for new and better machines and systems. More than one exhibitor felt that

because of this 'Rip van Winkle' attitude many French firms were now intent on making use of the latest developments in office mechanization which would put them ahead of British or German equivalents.

Practically every well-known name in office equipment in the world was represented at this year's exhibition. Names familiar in Britain included: Byron, Bradma, Sumlock, Vetromobil, Chubb, Imperial, Fordigraph, ICC, Gestetner, Banda, Rotaprint, Bulmer, Emidicta, Roneo, Creed, Comptometer, Burroughs, Dictaphone, Grundig, IBM, Kodak, National Cash Register, Olivetti, Remington Rand, Royal, Underwood, Addo, Addressograph-Multi-graph, Brunsviga, Ormig, Adler, Archimedes, Everest, Facit, Friden, Logabax, Magneta, Monroe, Olympia, Paragon, Contex and Edson.

### *Eliminates Paperwork*

One item which created widespread interest was exhibited on a small stand of a firm unknown outside France—and was of German manufacture. Called the *Scheuer-System*, it consists of a number of related pieces of equipment which the French term 'organizational machines.' The purpose of the system is to group logically the functions of production control, time control and machine control equipment. Facts, and figures under these headings are automatically fed from the



*In the Scheuer-System, production-line information is fed into the 'regulation centre' shown here*

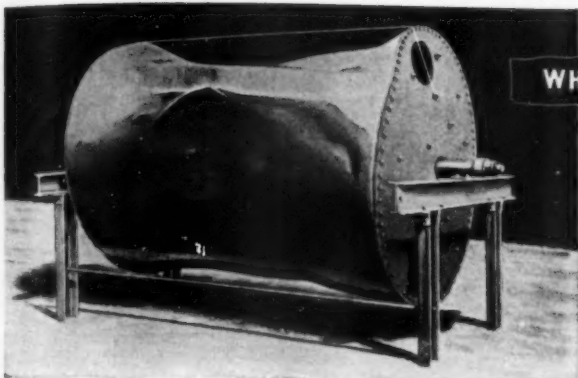
factory to the office to provide a visual picture—with statistics—of what is taking place on the production line.

The *Scheuer-System* virtually eliminates time sheets, records, work sheets, progress reports and analyses of work. All the necessary facts are fed to a 'regulation centre' which can not only indicate facts but also make decisions.

Linked to organizational machines in the various departments of the factory, the 'regulation centre' incorporates mechanisms for counting and measuring, for maintaining inventories, and for recording starting and stopping times and the reasons for stoppages.

For instance, the unit, in direct,





## WHAT A LET DOWN FOR THE DRUM

This deflated looking object was a steam-heated drying cylinder, 6 ft. diameter, 8 ft. in length. It was used for processing a hot liquid which was poured over the surface at 160° F. Copper constructed, with end-plates of  $\frac{1}{4}$  in. thick mild steel, it was fitted with four equidistantly-spaced vacuum relief valves.

It was not until after the collapse, which even forced in the stay-supported ends, that it was discovered that steam, condensing within the lightly-built cylinder, had created a vacuum. One faulty valve, and an inadequate steam supply pipe, had not helped matters either.

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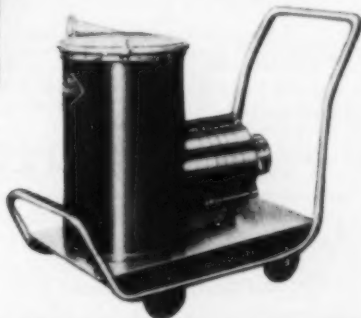
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*Vulcan Inspects - and protects*



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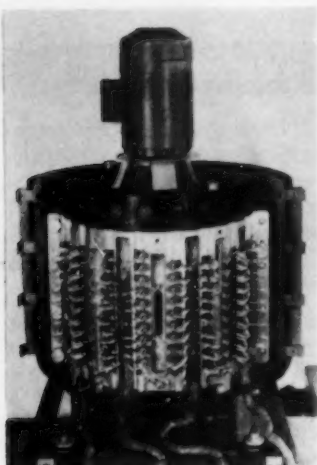


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THE BRITISH VACUUM CLEANER & ENGINEERING CO. LTD., (Dept 1), GOBLIN WORKS, LEATHERHEAD, SURREY

DECEMBER, 1956



Capacity of the Gamma computer's magnetic drum is 98,304 decimal digits or 24,574 programme steps

electrical contact with machines in the factory, follows progress in four stages: (1) preparation of the necessary materials; (2) materials awaiting the commencement of work; (3) execution of work; and (4) transport or transfer of finished articles.

The components of the system include cards, printed tape, plug-in totalisers and calculating units, luminous and aural signals, intercommunication equipment, time recorders and time control units.

Considerable attention was attracted by a French product, the *Pano*—one of the few new developments in filing equipment. The *Pano* is a mechanical storage unit for files, ledger cards and card records of all kinds.

Its advantages are: economy of space, increased security and a reduction in physical effort. One unit can hold the same number of files as 130 filing cabinet drawers in just over one-quarter of the space.

All the physical effort of opening, closing, bending, walking and searching is eliminated. The operator sits in front of the machine and presses a button; after a few seconds the drawer containing the file required opens in front of her.

The metal cabinet contains ten drawers which move around inside it on two vertical 'conveyers.' Each

drawer can be sub-divided to hold different types of records—from suspended files to card index cards—or a combination of different types of records.

The exhibition's biggest development in electronics was also French: the *Gamma 3B* computer with magnetic drum storage. This can be used for both accountancy and scientific mathematical purposes. It can also be connected to extension units, which double the plugboard programme capacity or which add to its internal memories.

The *Gamma* computer is the first machine of its kind in France, and can be linked to standard punched card equipment (reproducer, tabulator, etc.). The manufacturers report that machines are already being supplied to French industry, and that substantial orders are on hand.

Another product of the same manufacturer is an electric card punch with controlled 'memory.' This is invaluable in punching operations in which changes in the constants are very frequent, as it increases

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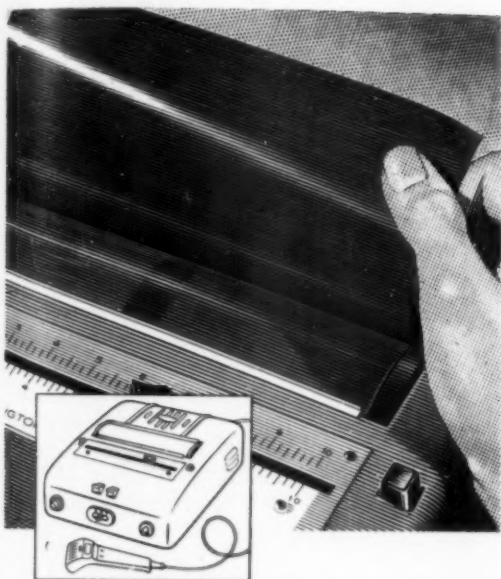
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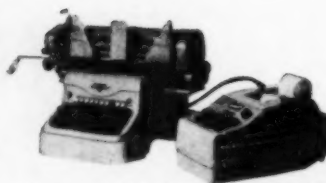
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operator efficiency by avoiding the repeated drawing up of the master card.

A number of exhibitors demonstrated the use of perforated tape as a means of 'converting' typed documents into punched cards, the latter being used to produce statistics of various kinds. In several cases, calculating and accounting machines were linked to tape perforators, the tape in turn being fed into tape-to-card equipment.

Emphasis was placed on applications in organizations with numerous branches. Each branch would have its own accounting equipment. As such documents as invoices, statements, stock records and payrolls were produced, tape would be punched automatically. Then the tapes would be sent to the head office, where there would be a central punched card installation. After transferring the information on to cards, the necessary records and statistics would be produced.

French and American equipment using the accounting machine tape



*A new trend in evidence at the Paris exhibition: linking a calculator with an 'accounting' typewriter*

perforator link-up were in evidence. The simplest version was a straightforward electric calculator printing its results on the usual tally roll, but at the same time punching tape. At the other extreme could be found an advanced electronic calculator designed chiefly for scientific purposes.

### *Small-firm Appeal*

Another trend on a slightly different level was the linking of a calculator to an ordinary electric typewriter or to one with 'simple' accounting machine features such as front feed and special carriage. These link-ups did not necessarily consist of two machines from the

same manufacturer or even the same country; one that received close study from visitors consisted of a Swiss 12-key calculator linked to a German 'accounting-typewriter.'

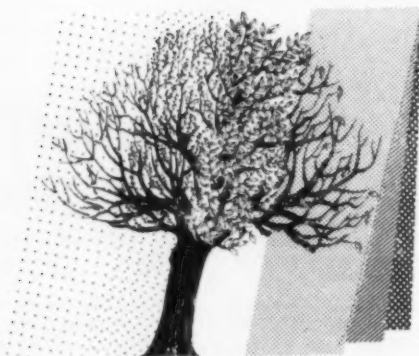
Both these machines can be used independently if desired. Therefore they appeal strongly to the smaller firm which needs some degree of mechanization to speed accounting procedures, but at the same time needs the 'flexibility' of being able to use the equipment for auxiliary operations.

Another combination not only typed automatically the figures produced on the calculator, but also featured a simple form of 'memory' for holding certain results. Although the machines were German, the control equipment was French.

Taking simplicity a stage further were various types of typewriter-accounting machines, which appear to be popular with both French and German manufacturers. Some are based on electric typewriters, others on ordinary manual machines.

Typewriters were plentiful, but

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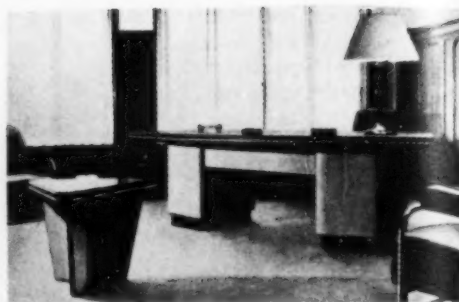
apart from minor items and styling there were no important developments. A popular feature was to offer quick-change carriages of various lengths. Another trend was illustrated by the number and popularity of electric machines.

Several companies were featuring machines in a variety of colours. one firm (American) exhibited models in pink, green and blue pastel tones, among others. The same exhibitor was showing a portable in which the ribbons are housed in transparent plastic cases allowing the typist to change them without any danger of soiling her hands.

There were several automatic typing machines, of different makes, for the rapid production of 'standard' letters. One of these stops automatically at certain positions to allow names, amounts, salutations, etc.) to be inserted manually; a flick of a switch then enables the machine to carry on with the repetitive part of the letter.

Among the dictating equipment exhibited was a tape machine which

*Most of the office furniture displayed at Paris was of metal construction. Considerable use was made of 'free form' shapes in the design of ancillary items*



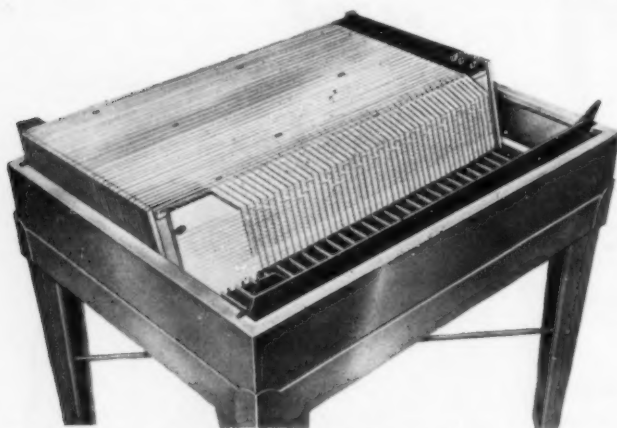
offers up to 90 minutes' continuous recording and weighs only 8½lb. Another model, of American manufacture, employs a plastic belt which, it was claimed, can be used and re-used indefinitely. A combined dictation and transcription unit, this machine is only 10in. long and 5½in. wide.

### Colourful Furniture

Most of the office furniture displayed was of modern design, and considerable use had been made of plastic leathercloth and plastic sur-

facing. Executive desks were frequently curved in plan, or boomerang-shaped. 'Free form' shapes for occasional tables and cabinets were popular. Many models featured metal frames, and relatively little wooden furniture was on show.

The use of leathercloth for covering tops, sides, backs and drawer fronts, enables a wide range of colours to be offered. Brighter colours such as yellow, tomato red and lilac were popular, although several exhibitors said that these were shown merely to test the reactions of visitors.



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8

BUSINESS



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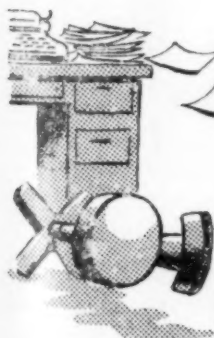
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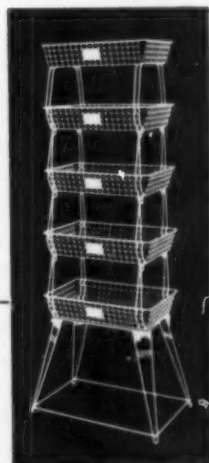
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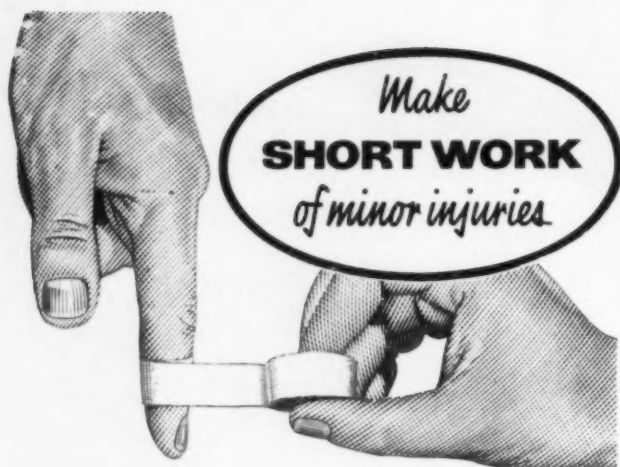


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BUSINESS



*The results of simple blood counts and other tests — undertaken in Shippam's own laboratory—are available to the visiting specialists*

## Everyone Shares in This 'Executive' Health Scheme

*Inspired by religious motives — yet immensely practical — Shippam's health scheme makes available to all employees the sort of treatment which is usually reserved for a company's 'top brass.' Cost? Less than five shillings per employee per year. Return? Many times that figure.*

By W. WOLFF

**A**TTENDANCE by top-line specialists in private London nursing homes: that sort of sick treatment is available—at the firm's expense—to any of the 550 employees of C. Shippam Ltd., Chichester, meat and fish paste manufacturers. Says Ernest Shippam, joint managing director: "Once a man has been with us for two months, we make ourselves responsible for him for ever."

On this simple principle is based the bold and imaginative health scheme which Mr. Shippam introduced into his 206-year-old firm a few years ago. In practice, it consists of three parts:

1—Annual examination of every employee by two London specialists.

2—Treatment at the firm's expense in London or elsewhere, if the best treatment is not immediately available in Chichester.

3—Payment of full weekly wages during sickness, less national health benefit.

The annual check-up of all employees is conducted in March each year by two London consultant physicians, Dr. P. E. Thomson Hancock and Dr. R. Niven. They come to Chichester for a full week, from Monday morning to Friday night, then return the following Monday and remain till Thursday. During these visits they stay at a local hotel.

By eight every morning they are at work in two rooms cleared for them at the factory. Male employees are examined during the first part of the first week, female employees during the remaining days. A senior foreman is detailed to see that the men and women are ready for examination when wanted.

The average time per examination is 20 minutes. But the doctors are prepared to spend unlimited time on an individual case if necessary.

During each consultation, the doc-

tors look at X-rays made biennially of each employee by the local Red Cross a few weeks before their visit. They also study the results of simple blood counts and urine tests undertaken in the firm's own laboratory, which is in the charge of J. D. Becket, a former public health analyst for West Sussex County Council. If more complicated analyses are wanted, these are obtained from the local hospital.

### *Local G.P.s Helped*

The day's examinations end at tea-time. If an employee is found to be less than A1, his local doctor is notified by the consultants, with suggestions concerning treatment.

The consultants spend their evenings writing these letters to the local doctors, with the help of the firm's typists. In this way medical etiquette is observed. Moreover, the consultants' notes are at the local practitioner's disposal at any time.

One supreme advantage of the annual check-up is early diagnosis. And early diagnosis means a much quicker cure.

In cases where treatment is necessary, the employee receives it in Chichester—if it can be arranged quickly. "But," says Mr. Shippam, "in these days of waiting for hospital admission, frequently a man or woman cannot be taken into hospital as soon as it is advisable. It is such cases that we send to London, where they are treated privately, at our expense." And 'sending to London' means transport by chauffeur-driven car for the patient and, where necessary, his wife.

If any complicated cases are found, the firm do not hesitate to send them

to London. Mr. Shippam takes the view that, with first-class treatment—surgical, medical and nursing—the employees concerned are back all the quicker. "What's more," he adds, "they are grateful for it. So they are a bit closer to us, and we to them."

The employees are enthusiastic about the scheme. Only one man has chosen to remain outside it.

Perhaps the most important benefit arising from the annual examinations is not that ailments are diagnosed and treated at an early stage, but that people who have worried about themselves find that there is nothing wrong with them at all. "In fact," says Mr. Shippam, "the examination does the factory more good than a visit to pantomime!"

What about output loss during the nine days taken by the examination? The answer is that the management have never concerned themselves about it.

### *Recruits Examined*

It is now a condition of employment with Shippam's that before people are taken on, they must submit to a full medical examination. If this reveals an illness, the firm are usually willing to wait for the person to undergo treatment on the National Health Scheme, and then take him on when he is a 'hundred percent' again.

When an employee with more than two months' service is ill, full wages, less national insurance, are paid until he or she is fit enough to come back. And if an employee's disability makes it undesirable for him to return to the food trade, his wages continue until he finds another job. Indeed, the firm guarantee that they will find

other employment for him before they take him off the payroll.

There is only one condition which employees have to observe in return for these benefits. If an employee refuses his doctor's advice, the firm cease to be responsible for him in any way.

The cost of the scheme? Four shillings and tenpence per week per employee—less than a national insurance stamp," says Mr. Shippam. The Inland Revenue allow the cost of the scheme as a charge against profits. Its worth to the firm? "More like £4 10s.," Mr. Shippam adds.

"For one thing, if you look after a chap when he is ill and take all the worry from him, he will be back something like 75 per cent quicker. For another, unless you have a healthy crowd behind you, you are surely never going to turn out a job of the very highest quality."

The health scheme was inspired by Mr. Shippam's strong religious beliefs, which he has tried to bring right into his business. He explains: "It is written in the Bible that everyone of us will have to give an account of his stewardship in business to God. I realized that it was not going to be a very successful one as far as I was concerned, unless I let Christ be at the head of my personal life and kept Him at the head."

The health scheme, together with the firm's profit-sharing and contributory pension schemes—and the generous spirit in which they are operated—have fostered a real family feeling in the firm. That has been the aim of all of them.

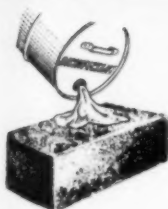
The result is that during the two centuries of their father-to-son history, the firm has never had a strike or a lock-out. Mr. Shippam believes that there is also a tremendously increased sense of responsibility on the part of the employees.

In hard figures, it has meant a 70 per cent increase in output over the past few years. One million jars of fish and meat paste now leave the factory every week. Mr. Shippam sums up by saying: "It has been tremendously worth while—and not only on a monetary basis."

**If an employee's disability makes it undesirable for him to return to the food trade, his wages continue until he has found another job. Indeed, the firm guarantee to find other employment for him before they take him off the payroll.**



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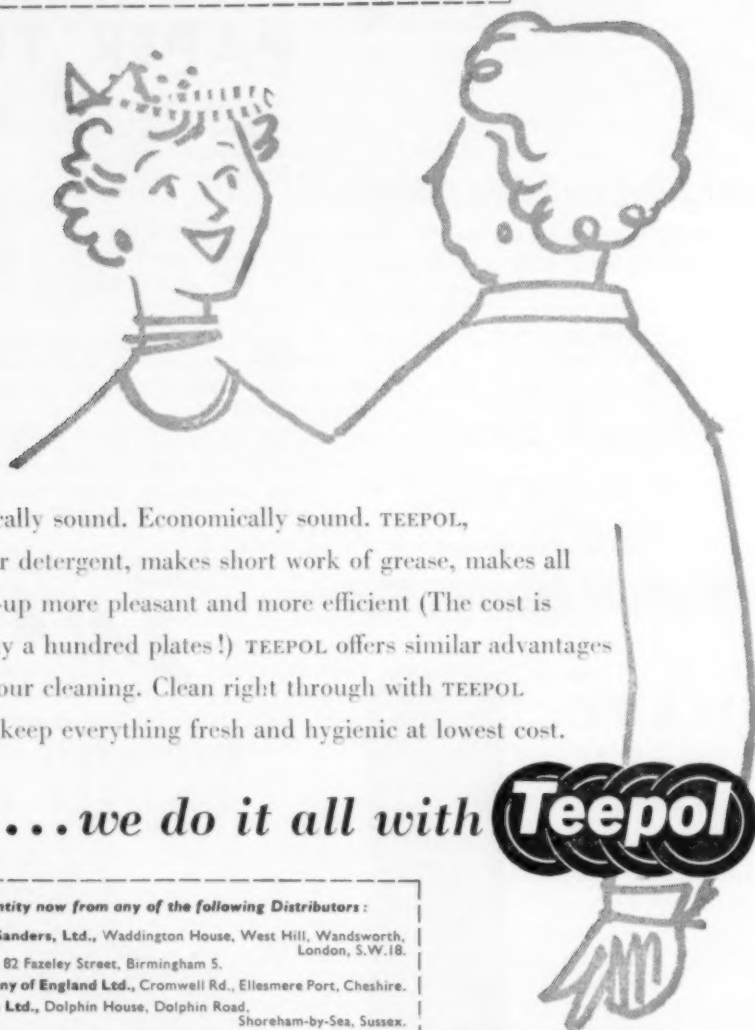
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**Puragene Products Ltd.**, Hygiene House, Middle Way, Summertown, Oxford.  
**Sposso Products Ltd.**, 10 Sovereign Street, Leeds, 1.  
**Stephenson Clarke Ltd.**, 8 Gt. Tower Street, London, E.C.3.  
**Stephenson Clarke Ltd.**, Collingwood Buildings, Newcastle-on-Tyne.  
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*The 4-gallon tins of TEEPOL are now fitted with an ingenious money-saving dispenser — free. Always the exact amount for maximum cleaning power at minimum cost!*

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**Shell Chemical Company Limited**



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*Banquettes and small tables break up the size of Shell-Mex's Strand canteen, which seats 420. A snack-bar caters for the man-in-a-hurry. Although there is no natural lighting, the general impression is one of lightness and freshness*

## CANTEEN PROFILE

The staff restaurant at the Strand headquarters of Shell-Mex and B.P. is highly subsidized — and highly patronized. Good organization, plus the use of up-to-date equipment, enables a 420-seat dining-room to serve 1,400 employees in less than two hours.

# Plenty of Customers for the Shilling Meal

By WINIFRED McCULLOUGH

*Senior Canteens Adviser, Industrial Welfare Society*

THE staff restaurant at Shell-Mex House in the Strand seats 420. It is without natural lighting, but gives a light and airy impression. The colour scheme is predominantly honey yellow, though many other colours are also used. Set in alcoves around the wall are drinking fountains with shelves of glasses, where customers can serve themselves with drinking water. Here and there a row of banquette seats breaks up the apparent size of the room. At the far end is a snack-bar where people in a hurry can have a sandwich and a cup of coffee or a cold sweet and a soft drink.

But the great feature of this dining-room—the thing that strikes a visitor instantly—is the brilliantly lit service counter and the white-capped chefs and counter hands behind it. Fourteen hundred people go through this counter every day in 110 minutes.

The method of service is as follows: the cash desk just within the door

each person pays one shilling. For this he can have a soup, any entree and any sweet from the long cafeteria counter, and as many cups of coffee as he wants.

If a customer wishes, he may go straight along the counter, picking up his meal in one journey. If, however, he prefers to take his first course only and come back for the sweet, he collects a token from the assistant and goes through a break in the barrier, returning later to exchange it for a sweet.

The person responsible for this restaurant, and others belonging to the company, is T. Vass. He takes his job very seriously. One of the things he is worried about is the waiting time of the dinner queue.

"I know it is impossible for people to come down in a steady stream," he says. "If they could, there would be no queuing longer than three minutes. As it is, at the peak period at the beginning of the lunch break,

and again at one o'clock, people sometimes wait as long as 12 minutes, and this, I feel, is too long. Yet it seems impossible to reduce it."

The dinner menu is varied both in the number of dishes served each day and in the variation of menus from one day to another. Here is a typical one, selected at random:

- Marmite
- Mulligatawny
- Fried fillet of plaice and tomato sauce
- Smoked haddock and poached egg
- Shell-Mex House grill
- Boiled salt pork and pea pudding
- Steak and mushroom pie
- Curried chicken Poona style
- Spam fritter and peas
- Roast lamb and mint sauce
- Pork pie, ham and tongue salad
- Corned beef and spam salad
- American salad
- Boiled silverside of beef and pickles
- Peas, cauliflower, spinach
- Cabbage and spaghetti au gratin
- Roast, fried, boiled and mashed potatoes
- Bread and butter pudding
- Semolina pudding
- Ice cream and grapefruit
- Apple meringue
- Cheese and biscuits
- Coffee

This meal is, of course, highly subsidized, but that is the policy of



**CASH DESK**—To handle customers quickly and smoothly, the cash desk uses a change-giving machine. Customers pay the flat-rate charge on entering the dining-room



**WATER FOUNTAIN**—Set into alcoves are gleaming drinking points. There is also a snack-bar at one end of the room where hot drinks and fruit squashes are served



**DEEP-FREEZE**—Shell-Mex were one of the first companies to use a deep-freeze storage unit for industrial catering. As frozen foods become cheaper, they will make increasing use of them

the company. The cost of the food in the meal sold for a shilling is upwards of 2s. 8d., and the other costs of producing the meal are about the same again.

In addition to the big restaurant and snack-bar there are other dining-rooms in Shell-Mex House. There is the senior managers' mess which seats 30; a larger room, called simply 'The Mess,' which seats 80; and a ladies' or secretaries' mess, which seats about 30.

As a sales organization, Shell-Mex has a great deal of entertaining to do. This is taken care of in the visitors' rooms on the Embankment floor, and in the beautiful 'river suite' on the ninth floor, where there are three other dining-rooms and a lounge. Here, catering of a very high standard is undertaken. The service comes

from the main kitchen in three electrically-heated plug-in stainless steel trollies. They are assembled in a service pantry opening off the dining-rooms, where there are also stainless steel sinks, tables and cupboards, a wine store, a silver store and everything else necessary to serve parties of from six to 30.

Mr. Vass has a staff of 105 people to run all these activities, including a restaurant manager, a chef, an assistant chef, and a female supervisor and her assistant.

The female attendants earn 2s. 10d. per hour for a week of either 42½ or 30 hours. Part-timers are treated exactly as full-timers: they get the same holiday allowance, and the same sick pay, which is very generous. Overalls are provided and washed free. The kitchen workers

get a clean one every day; the counter hands, one every two or three days.

The kitchen is equipped with a large deep-freeze unit and a washing machine for tea-cloths, etc. There are also glass-washing and apple-peeling machines, in addition to everything else one would expect to find in a large kitchen.

Mr. Vass likes new gadgets and new ideas but he is very selective, and keeps a careful note of the success of his ventures. For example, he has been using moulded plastic crockery for some time now. This costs about three times as much as the earthenware formerly used, but he has found that it has seven times the life. The crockery is washed with a special powder, and is soaked once a week in a second powder. It goes through the washing-up machine like anything else, and Mr. Vass feels it is a very good compromise.

This canteen is not only highly subsidized: it is also very well patronized. An average of 84 per cent of the staff take a main meal in the restaurant every day—a tribute to the standard it maintains.





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The illustration shows a typical installation of ABIX Steel Shelving, supplied to a well known Paint Manufacturer. Note the easy access to the Shelving and orderly appearance.

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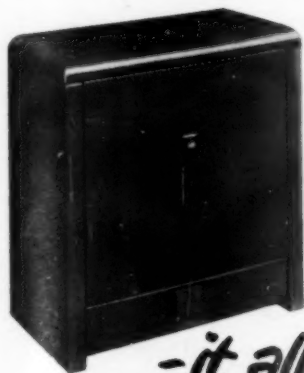
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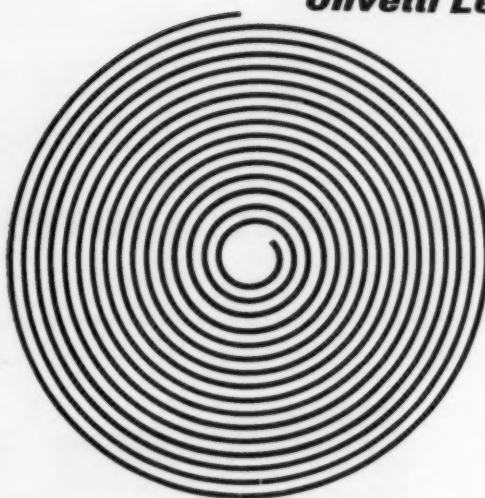
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DECEMBER, 1956

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## Olivetti Lexikon Elettrica



### Higher Output

The speed of the Lexikon Elettrica is a challenge to the fastest typist and a helping hand to the slowest. With up to 20 carbon copies at one typing, repetition work is simplicity itself.

### Outstandingly Good Work

A print-like quality of typing - always neat, crisp and even - comes automatically with the Lexikon Elettrica.

### Less Effort

With every movement and all the controls electrically operated, the typist produces more and better work with less expenditure of physical effort.

### Lower Cost

It is not only in a factory that more up-to-date and more efficient equipment can reduce working costs. In the office too a Lexikon Elettrica - for a fraction of one typist's yearly salary - can offset the shortage of experienced typists and show a definite saving in overheads. The Lexikon Elettrica brings productivity home to the office.

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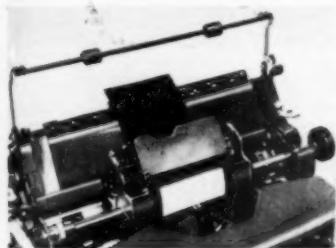
# Business EQUIPMENT SURVEY

NEW AIDS TO GREATER OUTPUT AND LOWER COSTS

## FOR YOUR OFFICE

### Address Platen Typewriter

**A**N alternative platen, for typing addresses on stencil cards in connection with mail order or other address work which occupies only a short part of the daily routine, can be supplied with the *Imperial No. 136* typewriter. It is a separate unit, incorporating address stencil card



Feeds cards automatically

feeding equipment, and can be fitted in place of the ordinary platen as required.

Stencil cards are simply pushed into the front feed chute—they automatically stop in the correct typing position. The operator can pre-set the feed to type either five or seven lines, and can adjust the unit to take cards of differing widths.

Provision is made for a backing strip to be fed behind the stencil card, which enables a clearer stencil to be made while also rendering the typed matter more easily readable during editing. In all other respects the machine is standard.

*Enquiry Ref. No. O.12/1*

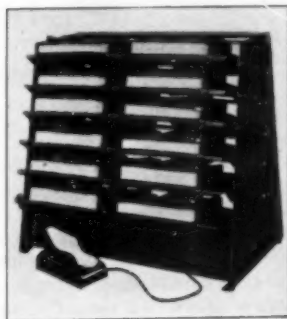
### Compact Collator

**P**OWER-OPERATED, the *Metro-matic Series II* collating machine saves up to 50 per cent of the time normally spent on collating, accord-

ing to the manufacturers. It is a portable unit which fits in one corner of the average desk and, by incorporating an efficient shelving arrangement, eliminates the fatigue caused by reaching for awkwardly-placed papers. From a sitting position, one operator can process 20,000 sheets an hour.

The sheets are stacked in vertical rows of trays, known as feed units. When a foot pedal is depressed, the top sheet of each stack is ejected ready for rapid hand gathering. Two sponge rubber-covered rollers do the work here. They revolve around a spindle which is rotated by a rubber belt. This, in turn, is driven by a chain within the machine—there are no external moving parts to endanger the operator.

Each feed unit has two paper guides which can be adjusted to take differ-



Eliminates fatigue

ent widths of paper. The machine will also handle a wide variety of paper grades from carbon copies to

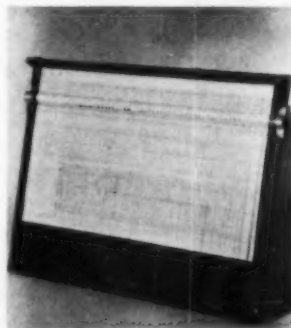
six-sheet board. A constant check can be kept on every collated set so that blank or mis-printed sheets do not slip through.

Four standard models of the machine are available for handling six, eight, 12 or 16 stacks. Smaller models will take papers up to 11in. wide; the larger units, up to 23in. wide.

*Enquiry Ref. No. O.12/2*

### Standardized Peg Boards

**R**EPLACING a miscellaneous range of peg boards is a new range of standardized models. In all, there are 26 types, used for registering various sheets in a multiple



For tailor-made systems

entry system, and designed to produce tailor-made systems without sacrificing the advantages of standardization.

Two models in the range are of the summary board type. They provide a means of preparing summaries from original documents when these are overlapped to expose one column.

All boards are fitted with cursor bars, reversible peg racks (to enable both sides of the forms to be exposed) and stands to hold the board

★ Equipment included in this survey is selected for its news value alone. The names and addresses of the manufacturers or distributors of items mentioned can be obtained by writing to the Editor, BUSINESS, Mercury House, 109-119 Waterloo Road, London, S.E.1, quoting the appropriate reference numbers. Manufacturers are invited to submit details of new and interesting products for consideration. An original photograph should accompany each item submitted.

## Business EQUIPMENT SURVEY

at an angle which enables it to be scanned easily by the operator of an adding machine.

Between them, the boards allow for several widths of overlap.

*Enquiry Ref. No. O.12/3*

### Reading Reference

**D**ESIGNED for use by representatives, the *Repsfrend* loose-leaf system provides quick reference to details of clients and calls. It is equipped with 75 loose-leaf sheets (printed on both sides), 24 divider sheets and three 6in. lengths of tabbing. With three choices of rulings, the binder can accommodate complete records for up to 1,140 customers.

On each sheet, space is provided for customers' names and addresses, information, and record of calls. The binder in which these sheets are housed is finished in a leather effect, and measures 9in. by 6½in. by 1½in.; therefore it will slip conveniently into a despatch case or an overcoat pocket. Three spring rings enables leaves to be removed or added as required.

Index tabs and divider sheets are adjustable to any position.

*Enquiry Ref. No. O.12/4*

### Improved Communication

**O**NE of the most important features of the *Siemens* intercom telephone is the development of in-



**Doubles as loudspeaker**

duction-coil sidetone control, which ensures better voice reproduction. According to the manufacturers, this is particularly effective under noisy conditions.

Special circuitry, to minimize con-

tact trouble, is incorporated in the unit. Provision is made for simple conversion into loudspeaker working.

Full intercommunication for six to 16 lines is provided on the standard models, though 21 lines are available to order. Operation is either from normal electricity mains supply or from a dry-cell battery. The equipment can be bought outright or rented at a cost of a few pence per day. Free maintenance is offered for the first 12 months.

*Enquiry Ref. No. O.12/5*

### Faster Mail Distribution

**B**Y uniting two operations into one piece of equipment, the manufacturers of a new numbering and dating



**Two jobs in one**

machine have introduced a fast, efficient method of controlling incoming and outgoing mail. The stamp features an engraved steel date followed by four-, five- or six-figure wheels.

Other models in the firm's range include lever-change dating machines which eliminate the necessity for daily alteration of the date manually, and lever-change numbering machines which are useful where constantly varying numbers of impressions are needed.

*Enquiry Ref. No. O.12/6*

### Contemporary Furniture

**T**HREE new items have been added to the *Golden Key* series of office furniture: an executive desk,

a typist's desk and an office wardrobe.

Of contemporary design, each piece is available in natural and nut brown oak, or in French pencil stripe walnut. The large desk offers seven drawers, three with lock and key, and measures 4½ft. wide by 2½ft. deep.

The typist's desk features left knee-



**Distinctive design**

hole, three full drawers on right-hand side and measures 36in. by 30in. by 20in. The wardrobe has wide solid mahogany shelf and full hanging space. It stands 6ft. high and 2ft. wide.

*Enquiry Ref. No. O.12/7*

### Distortion-free Tape

**W**ITH a specially-developed coating, the new *Scotch Boy 120* high output magnetic tape permits the recording of a wider dynamic range with freedom from distortion on signal peaks, and maximum signal output at low frequencies.

It also offers greater overload protection at long wave lengths, while retaining all the features of standard coating.

*Enquiry Ref. No. O.12/8*

### Comfort for Typists

**W**ITHOUT being cumbersome, the *Sitting Pretty* typist's chair combines pleasing design with real comfort, according to the manufacturers. Furthermore, it sells at a comparatively low price.

Features of the model are its strength and light weight. Other





**You want to dictate?** Pick up your hand-microphone, press a button and speak. Your words are recorded on magnetic tape. The recording will last as long as required. Then it can be erased without trace. To check what you have said, you can listen back on the hand-microphone too. Your voice comes through crystal clear.

**You operate the Exchange yourself—by remote control.** The hand-microphone puts all controls at your fingertips, for recording, correcting or listening back.

**In the typing pool,** a Tape-Riter linked to the Exchange is taking down your dictation. It needs next to no supervision. The typists get on with their typing while you dictate. When you finish, a buzzer tells the typist to take off your tape for transcription. She replaces it with another—and the Exchange is ready for more.

# THE NEW APPROACH TO OFFICE DICTATING

*How the Tape-Riter Dictating Exchange can save you time and money*

**M**ORE and more firms, both large and small, are streamlining their office work with the Tape-Riter Dictating Exchange, and increasing efficiency. Executives can dictate from their desks direct to the typing pool, simply and confidentially, whenever they want to—without having to wait for a typist, or keep one waiting.

They save time. And so do the typists: a pool of seven can do the work of twelve with no extra effort. More work gets done at less cost. In this way, an Exchange can pay for itself within fifteen months.

Our consultants will be glad to visit you and tell you more. Their services, of course, are free and involve no obligation on your part at all. Please write to us or telephone.



**Tape-Riter.** A tireless, supremely efficient secretary always at your elbow! As your needs grow, single Tape-Riters can be incorporated into an Exchange. The Tape-Riter is completely interchangeable.

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advantages are instant adjustment of the back rest, which ensures maximum comfort and support for the body, whether tall or short; extra wide seat fitted with foam rubber insert which cannot creep; and rubber non-slip feet. Height is adjustable from 18in. to 22in.

Streamlined assembly and concealed fixing screws serve both to improve appearance and to prevent

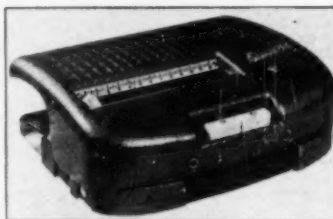
snagged nylons and clothes. Hardwearing Vynide is permanently welded to the moulded surround.

Enquiry Ref. No. O.12/9

### Double-duty Recorder

THE new Baird *Stenocord* uses a magnetic recording belt, which can take 12 minutes' recording (equal to five typed pages) and can be erased and re-used any number of times. The belts can be put into standard files or sent through the post at printed matter rates.

A versatile microphone, which fits in the hand or stands on the desk,



Twelve minutes' dictation

acts as a loudspeaker, and plays back with increased volume. Full transcribing facilities are provided by the *Redicta* playback machine, available as an optional extra. This unit is considerably cheaper than the dictating machine.

Other developments in the machine are an alternative choice of headphones, either stethoscope or single earphone; two-button control for recording playback, erasing and correcting. There is also a volume control.

Weighing 9lb., and sturdily constructed, it can be used in a car, off the battery, with the aid of an adaptor. Additional advantages include a scale marked in minutes, enabling the transcriber to locate her place on the belt, and a foot switch which leaves the hands free for typing.

Enquiry Ref. No. O.12/10

### Fingertip Desk File

MAKERS of the new *Rotacol* have combined a desk and filing cabinet in one unit. The filing area—



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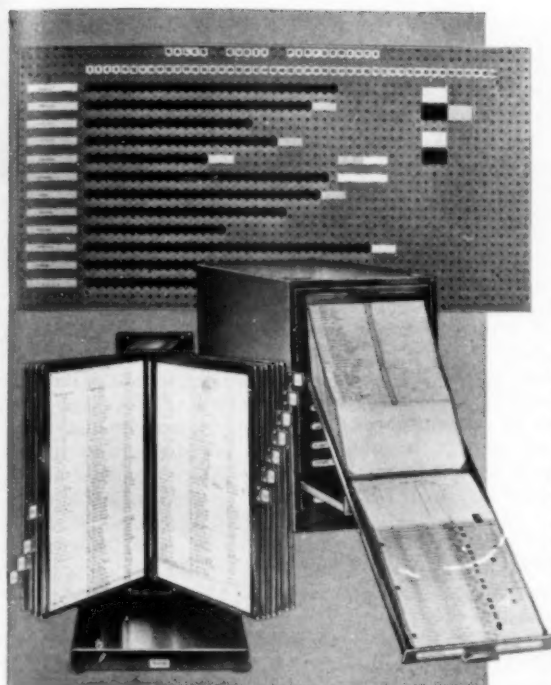
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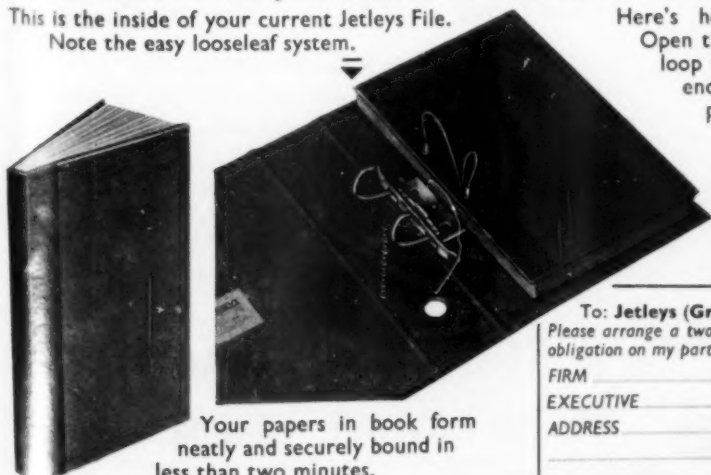
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Open the arch, double the cord, pass the loop through the centre hole, and the ends of the cord through the hollow posts. Lift papers and refills from posts, turn over and pass ends of cords through the loop, pull tight and knot.

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To: Jetleys (Great Britain) Ltd., Huddersfield, Yorks.  
Please arrange a two-minute demonstration of JETLEYS without obligation on my part.

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EXECUTIVE

ADDRESS

DATE

## Business EQUIPMENT SURVEY

which is adjacent to the writing surface of the desk—contains from four to seven horizontal card-bearing



Stores up to 98,000 cards

wheels, which revolve as well as move forward towards the operator.

Two units, each containing four wheels, can be linked to a desk top, thus providing a large and versatile filing system. Single units have a working desk attached and can accommodate up to 98,000 cards in

sizes ranging from 4in. by 2in. to 8in. by 5in. Double units provide twice the card space. All cards are accessible to one operator, and each unit has a semi-circular door which can be locked.

Another model (the *Rotadesk*) has card-holding apparatus located within the desk itself. Here the index cards are contained in a horizontally rotating wheel, only a portion of which is revealed. A slight touch moves the cards around. Up to 12,000 cards (of the same size-range as above) can be accommodated. When not in use they can be completely enclosed and locked up.

*Enquiry Ref. No. O.12/11*

### Versatile Heaters

NOW available in several styles, *Dimplex* convector heaters can be mounted on skirting-boards or walls, used as floor-standing models or portables, or built (semi-recessed) into walls or skirting-boards.

The units provide quickly available



Can be fitted anywhere

'background' heat, and are available in two sizes: 2ft. wide, 300w. rating; or 3ft. wide, 450w. rating. All vents are located in the front of the heater cover, through which cold air enters, passes over the elements and is quickly pushed out in a warmed stream.

The heaters can be wired at either end and built up in multiples to a maximum loading of 2,500w. The manufacturers have designed the units so that though the covers fit flush, there are, in fact, four small projections at the rear which provide a gap between the back plate and wall or skirting-board on which the heater is mounted. This prevents interior decoration becoming spoilt.

Heaters are finished in high-gloss

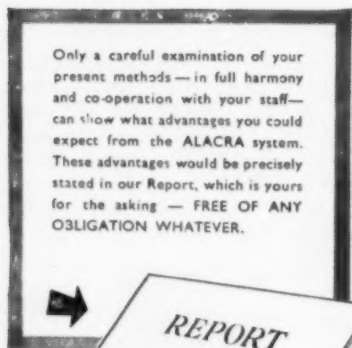
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Smee's B.102

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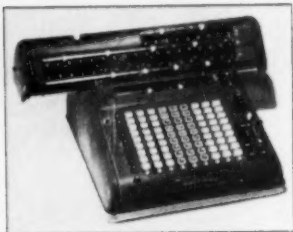
## Business EQUIPMENT SURVEY

enamel and supplied in eight colours. Voltage range is from 110 to 250.

*Enquiry Ref. No. O.12/12*

### 'Memory' Calculator

**R**ETAINING the automatic short-cutting feature of other machines in their line, the manufacturers of the *Model DS* automatic calculator have developed a new unit with a special



Useful for technical work

storage register device which allows figures to be accumulated while individual calculations are given in the ordinary registers.

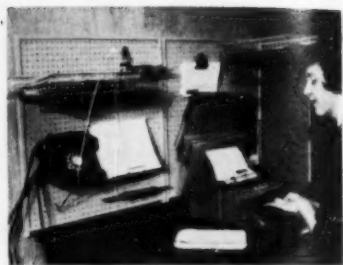
This makes the machine suitable for scientific and technical problems as well as for the usual commercial calculations. Figures can be kept in the storage registers and transferred directly to the product register as required. In effect, it means that answers to many calculations can be obtained automatically, whereas previously several operations were necessary or intermediate answers had to be written down.

The new device is useful for extending invoices, or for calculating total wage cards. Multiplication and division operation are also automatic.

*Enquiry Ref. No. O.12/13*

### More Desk Space

**T**HE *Pegatex* wallboard system is designed to help both executives and secretaries keep their desks clear of unwanted articles. It consists of a perforated panel, into which metal fittings of special design are slotted. The fittings can be positioned anywhere on the panel and are capable



Everything in view

of holding files, correspondence trays—even a phone.

The system allows books, papers, and files to be easily seen and reached without them getting in the way.

Present models comprise a panel and the following fittings: two file-holders, two correspondence tray holders, one shelf unit (for carrying sundries or reference books), a notebook or diary holder, a phone holder, two clip hooks and a pencil holder.

The fittings are easily attached, yet are firm enough not to be accidentally dislodged. The panel measures



- Available in 2-, 3- and 4-drawer models in *Foolscap*, 4-drawer in *Quarto* size
- Drawers operate smoothly on fully progressive roller suspensions
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## Business EQUIPMENT SURVEY

4ft. by 2ft. and has wooden beading on all sides. Four screws hold it to the wall or desk. Alternatively, it can be clipped to the desk, or fitted with wooden feet to stand on the floor.

The manufacturers expect to extend the system to workshops and laboratories, by providing holders for tools and other items.

*Enquiry Ref. No. O.12/14*

### Easily-read Counter

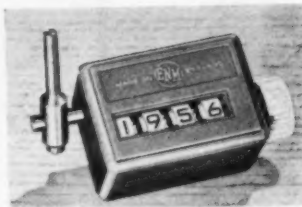
THE stainless steel and nylon construction of a new small reset counter prevents corrosion and eliminates lubrication, say the manufacturers. Black figures on a white background offer utmost clarity in reading the counter, which goes up to either 999 or 9,999, followed by zero.

The unit measures approximately 1½in. by 1½in. by ½in., and weighs 1 oz. It can record revolutions or fractions of revolutions at intervals of as little as 20 millisees. (3,000

counts per minute) and strokes at intervals of 60 millisees. (1,000 counts per minute).

The drive shaft normally projects only on one side but can be arranged to project on both sides, so that two or more counters can be connected, or the drive of the counter transmitted to other parts of the mechanism to which it is attached. The shaft can also be projected vertically. All models can be arranged to count either in a clockwise or anti-clockwise direction.

Reset knobs of either ½in. or 1½in. diameter are standard and can be



Compact and convenient

fitted on either side. The larger reset knob is useful for setting counters mounted under a panel.

*Enquiry Ref. No. O.12/15*

### Greater Security

TWO models of the Remlock burglar-proof lock are now available. The senior model has a double-throw bolt, automatic deadlock and inside locking mechanism. The standard variety does not use inside locking but is suitable for all solid doors.

On both varieties, once the door is closed the mechanism is automatically locked and the bolt cannot be forced back by end pressure. The knob can be locked against rotation by hand, and added protection is offered by the double-length bolt.

Locking mechanism employs the tumbler principle. The backplate to which the tumbler device is attached is housed in the lock casing. All working parts are in constant mesh.

*Enquiry Ref. No. O.12/16*



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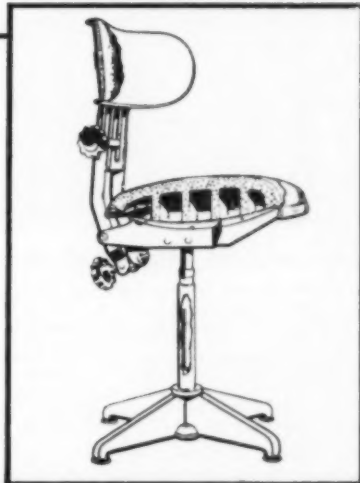
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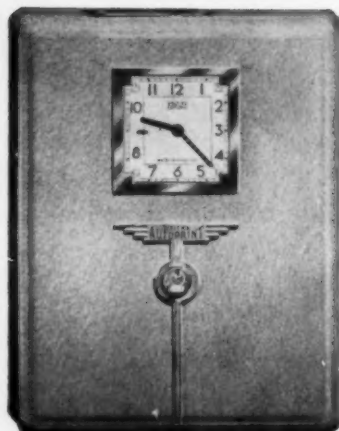
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**THE AUTOPRINT MARK II TIME RECORDER**

The Autoprint prints electrically. One hand operated, there are no levers, handles or bars to depress. With two colour printing—red for late and overtime, black for normal working, it prints "out" recordings immediately after "in" recordings. Adjusting itself automatically every midnight, it can be operated direct from A.C. Supply or from Smiths Pendulum Master Clock. Outright Purchase or Rental Terms available. Entirely a British Made product.

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MADE BY

**ENGLISH CLOCK SYSTEMS\***



B.O.A.C. have to work to a rigid time-table. To operate this successfully they depend on the punctuality of their staff. The installation of 15 ECS Autoprint Time Recorders at their new London Airport Headquarters Building has enabled B.O.A.C. to keep an accurate check on the working hours of their personnel.

Clocking-in or out is an operation that takes a second on the Autoprint Time Recorder. Whether you deal with tens or with thousands of people the

Autoprint guarantees that there will be no delay in starting the day's work.

In addition to the 15 Autoprint machines the complete B.O.A.C. installation has 200 slave clocks and 6 large workshops and hanger clocks all operated from a SMITHS Pendulum Master Clock.

B.O.A.C. are among the many Industrial and Commercial companies all over the country who have learned to rely on English Clock Systems, the perfect time-keeper.

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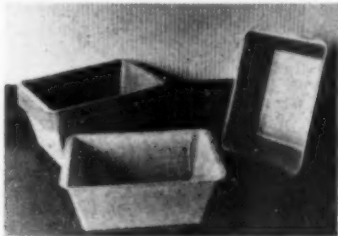
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## INDUSTRIAL EQUIPMENT

### MATERIALS HANDLING

#### Light Work Baskets

**L**IGHTNESS and toughness are the outstanding features of a range of glass fibre reinforced plastic baskets intended for holding work in progress. The baskets are made to



Quiet in use

stand up to hard usage. They are also much quieter in use than metal baskets, especially if used for metal components.

They can be compactly stacked, and their corners are radiused for easy cleaning, an important factor when precision components are being held. Their size is 17in. by 13in. by 7in. deep. And at present, they are available only in green.

*Enquiry Ref. No. F.12/1*

#### Heavier Fork Truck

**T**HE Wrigley Mark III electric fork lift truck is more powerfully built than previous models in this series.



Safer, carries more

The load rating has been increased to 1,500lb. at 15in. centres and the height of lift to 9ft. The base casting is heavier, giving an increased safety factor and the mast is also stronger.

Incorporated in the mast assembly is a 6in. 'free lift' which allows the truck to pick up and carry a load on the forks clear of the ground without increasing the height of the truck beyond its normal closed height of 6ft. This provides greater freedom of movement in low-roofed buildings and through low doorways.

All hydraulic glands are now fitted with new packings, giving longer trouble-free life. The general design, power unit, and controls are similar to those of previous models, and the extreme manoeuvrability has been retained.

*Enquiry Ref. No. F.12/2*

#### Fork Truck Accessory

**V**ERSATILITY of fork trucks can be greatly increased by the use of a range of 'goose-neck' boom attachments.

Produced specially for Yale trucks, these attachments facilitate handling of materials which are not readily palletized because of irregular shape, or which require reaching over obstacles. They are available in various lengths, and are attached to the truck in place of the forks. They are easily mounted and removed.

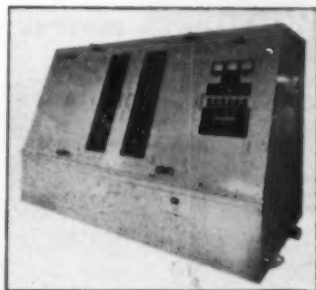
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### PROCESSING

#### Electronic Hardening

**I**NDUCTION, or radio-frequency, heating is used in a new crankshaft hardening plant, claimed to provide a simple and most economical method of processing several hundred crankshafts per week.

A heavy steel tank accommodates a jig plate on which are mounted the heating inductors for the particular type of crankshaft being hardened. Different crankshafts are handled by replacing the complete jig plate and



Economical hardening plant

the drawer containing the process-timers, which fix the heating and quenching cycles for each crankshaft.

Once two crankshafts have been loaded, the heating and quenching cycle is completely automatic.

The inductor coils are hinged and connected in parallel. Air rams close each coil in turn, so that R.F. power is fed to only one coil at a time.

An automatic switching mechanism enables the heating and quenching cycles to be conducted on different bearings simultaneously. In addition, an automatic re-matching unit enables maximum loading to be maintained on the generator throughout the entire heating cycle, thereby running the plant at the maximum efficiency.

At the end of each heating cycle, water automatically floods over the heated surface; simultaneously the R.F. power is switched to a coil on the other crankshaft. At the conclusion of the whole automatic cycle, one crankshaft is removed and the other moved into its position. A new crankshaft is then placed on the empty jig.

Any single bearing can be hardened by switching the plant over to manual operation, when a heating and quenching cycle will be performed only on the bearing to which the selector switch is set.

*Enquiry Ref. No. F.12/4*

### HEATING

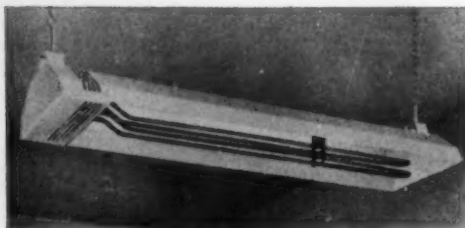
#### Electric Heater

**A** NEW overhead radiant heater is designed for large machine shops, loading bays, garages, aircraft hangers, and other places where the overall area is too big to heat economically. Since the heat source is radiant, comfort may be obtained at a lower air temperature.

The heater comprises a rigid ano-

## Business EQUIPMENT SURVEY

Overhead heat for large areas



dized aluminium reflector, fitted with *Inconel*-sheathed wire elements. It is available in loadings of 1½kW heater, giving an output of 3kW, if required, without altering the trough.

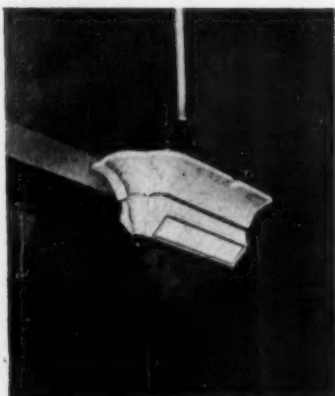
Two cadmium-plated covers, to fit a 2in. conduit box, and cadmium plated hooks for chain suspension, are provided with each heater. Cadmium-plated oval link chains can also be supplied. The heaters can also be fixed to a wall or cornice.

Both the 1½kW and the 3kW heaters have overall dimensions of 40in. by 10½in. by 3½in. Being designed for industrial and commercial application, they are not subject to purchase tax.

*Enquiry Ref. No. F.12/5*

### For Low Ceilings

A DOUBLE-SIDED gas space-heater with a rated import of 12,500 B.T.U. per hour has been



Even heat distribution

introduced for installation where low ceilings preclude the use of larger models. The recommended fixing height is 8ft. to 10ft. Known as the *Mastertherm Midget*, its two-flameless radiant surfaces are set at an

angle to ensure an even downward distribution of heat.

The heater weighs 22lb. and measures 17in. long by 7½in. wide by 10in. deep. The gas connection is half-inch British Standard pipe. The main supply is controlled by a lever cock, while the supply to the permanent pilot has a separate cock. A constant-pressure governor is fitted. The finish is mottled ivory vitreous enamel.

*Enquiry Ref. No. F.12/6*

## VENTILATION

### New Air Filter

NOW available in Britain for the first time is the *Amer-glas* air filter, which has been on the American market for some years. The filter is a pad of glasswool arranged so that dust is trapped in progressive density from front to back, increasing the filter's life and efficiency.

The finer or air-leaving side is coloured pink. The glass fibres are held loosely together by a thermoplastic bond, and it is claimed that the pad will not break or tear. The pads are made in sizes to fit most filters.

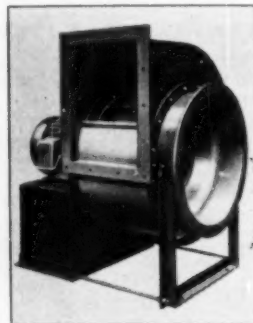
Dust-laden air passing through the filter is divided and sub-divided many times into tiny streams which constantly change direction. The inertia of the dust particles causes them to impinge upon the coated fibres, where they are trapped by the adhesive film.

*Enquiry Ref. No. F.12/7*

### P.V.C. Fans

A NEW RANGE of *Turbocyclone* fans meets the need in the chemical and other industries for corrosive-resistant units. They are made throughout from rigid P.V.C. sheet, which is tough and light, dimensionally stable, and non-inflammable.

The fans resist weathering as well as chemical attack. This makes them suitable for all kinds of fume removal, at temperatures up to 140 deg. F. The smallest of the range is designed for fume cupboards, cabinets, and small laboratories, where



Resists corrosive fumes

the need is for a compact unit with direct-coupled motor. The other fans have larger outputs and are available either direct-coupled or with vee-rope drives.

Bases are bolted to the P.V.C. in such a way that any one of eight angles can be arranged.

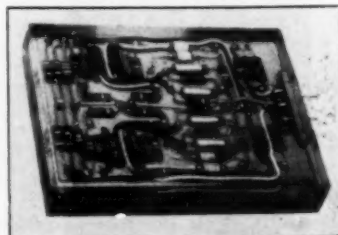
*Enquiry Ref. No. F.12/8*

## INSTRUMENTS

### Counter and Scaler

APPLICATIONS of a new transistor decade counter and scaler include frequency measuring, time measuring, tachometers, crystal dividers, machine tool control and frequency standards. The unit has been developed to fulfil a demand for a small and compact device having a low consumption which can be used either as a stable divide-by-ten stage or, in conjunction with a meter, as a counting stage.

Transistors and germanium diodes are employed throughout. The unit will count or divide from zero up to



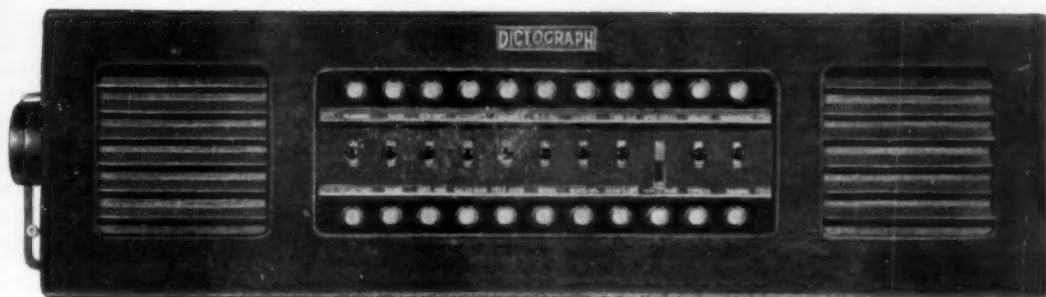
Multi-purpose measurer



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## Business EQUIPMENT SURVEY

30 Kc/s. Total consumption is 100MW as a scaler and 160MW as a counter; power supply needed is only 10 volts. This ensures that no heating of the stage can occur, thus lengthening the life of the device considerably. The stage should prove of advantage to equipment where space and weight have to be kept as low as possible and where portability is desired.

Some 86 components, including eight diodes and eight transistors are assembled on a double-sided tag board measuring 4in. by 3in. This is then "potted" in epoxy resin to form a block size of 4½in. by 3½in. by ½in., which, in turn, is fitted with an eight-pin plug so that the unit is ready for direct insertion into the equipment.

*Enquiry Ref. No. F. 12/9*

### GENERAL

#### Work Positioner

A NEW and simply-constructed work positioner, *Model CB/05*, can be used for general welding or for the assembly of small components.



Useful for welding or for the assembly of small components, this work-positioner has a circular top plate (normally 9in. diameter) which can be rotated through 360 degrees and locked in any position

Its circular top plate can be rotated through 360 degrees and locked in any position. Normally the top plate is 9in. in diameter, but larger plates are available. It can be tilted to any position between horizontal and vertical, and locked by a steel peg which selects one of a series of holes.

The whole assembly is mounted on

a tubular stand which can be raised and secured to provide any working height from 2ft. 10in. to 4ft. A tool tray is provided for the convenience of the operator.

For fitting and assembly work, the positioner can be supplied with a 'D' shaped top plate specially slotted to accommodate various sizes of patented vices. These have rotating rear jaws, shaped to hold round, angular, or awkward-shaped work. Horizontal and vertical V's are provided for firm gripping and alignment of bar and tube. Tapered objects can be gripped in the self-aligning jaws without difficulty.

*Enquiry Ref. No. F.12/10*

#### Built-in Flexibility

DEVELOPED in the United States but now being used in some major building projects in this country, the *Unistrut* system of channeling gives great flexibility to the electrical and piping systems of new buildings. The basic unit consists of a strong steel channel (embedded in the concrete at the time of pouring), into which fits a self-locating nut and

# why because

A LAMSON AIRTUBE SYSTEM . . .



The problem facing Industry today is how to use manpower to its best advantage. Lamson Carrier Airtubes free manpower from the burden of carrying messages, files, samples, etc., from place to place thus increasing speed, security and efficiency. We can help you. Write or 'phone for our Representative to call and explain how Lamson Airtubes can help YOU

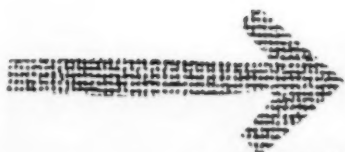
## LAMSON ENGINEERING CO. LTD.

(Dept. D.12)

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Telephone : LADbroke 2424

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# FIRE ALARMS

## ... and the Factory Act

We can help you to comply with the Factory Act 1937 by providing equipment for an inexpensive Fire Alarm system suitable for **your** factory.

Note the following advantages:—

- Equipment complying with the British Standard Code of Practice "Electrical Fire Alarms".
- Has the approval of your local Factory Inspector.
- Any number of manual or automatic points.
- Alarms available to overcome most noise levels.
- Provides general or restricted alarms as required.
- Can be connected to the local Fire Station.
- Schemes available to suit **your** factory.
- Good deliveries.

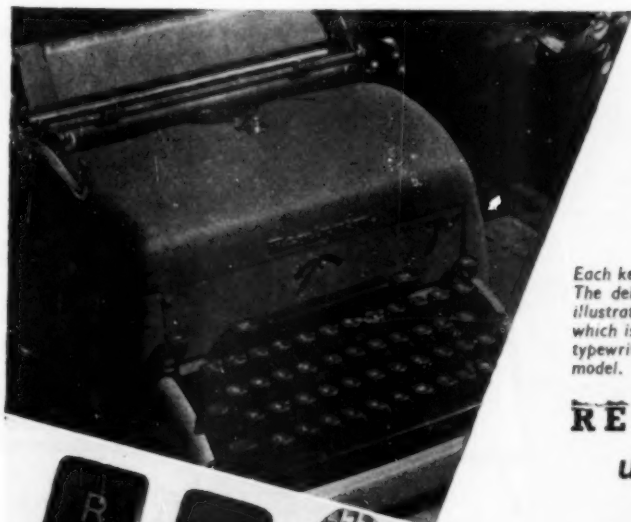
Contact your local Electrical Contractor or write today for our informative booklet "Are You Protected?".

### GENTS' OF LEICESTER

### FIRE ALARM SYSTEMS

GENT & CO. LTD · FARADAY WORKS · LEICESTER

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Key tops in thousands every week, all made from steel moulds designed and built by National Plastics Tool Division ... this is what it means in terms of technical skill and hard planning to satisfy the demand of Remington Rand for typewriter key tops.

Each key top is made up of two thermoplastic mouldings. The delicate character is moulded first, as shown in the illustration, then used as an "insert" in the key itself which is moulded round it in a contrasting colour. The typewriter illustrated is the latest Remington Noiseless model.

### REMINGTON RAND

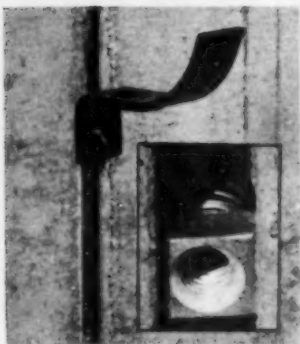
use



### NATIONAL PLASTICS

NATIONAL PLASTICS (SALES) LTD. Sales Organisation for BRITISH MOULDED PLASTICS LTD., Avenue Works, Walthamstow Avenue, London, E.A. LARKSWOOD 2323

## Business EQUIPMENT SURVEY



For adaptable piping

bolt assembly, capable of carrying a wide range of fitments for pipe, cable and conduit runs, storage racking or electrical fittings.

Unistrut supports may be placed at two-foot intervals, and can bear a uniformly distributed load of 800 tons. Once the channeling has been installed in a building, it is a simple matter to introduce more fitments to carry cables or pipes, or to redesign

completely the trunking systems for electricity or water.

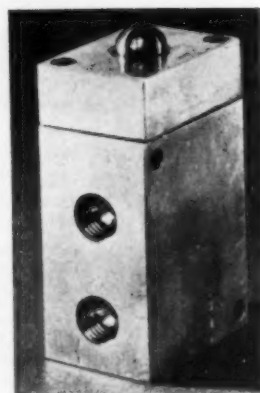
The picture illustrates a typical application, the inset showing how the Unistrut nut is locked to the "double track" formed by the in-turned edges of the channel.

Enquiry Ref. No. F.12/11

### Air Control Valve

NEW addition to the range of Red Ring air equipment is the P.100 pilot or master valve. Poppet-operated, the valve is instantaneous in operation, and allows for full port flow. A brass spindle (on to which is moulded the poppet faces) moves only  $\frac{1}{8}$  in. to open and close the ports. Spring pressure holds the poppet on one face, and the valve is actuated by depressing the protruding spindle. It can be arranged for lever, palm button or cam operation.

A feature of the valve is that servicing can be carried out without disturbing the pipe connections, as the spindle assembly can be with-



Instantaneous operation

drawn after removing the cover or escutcheon. There is only one moving part.

The valve may be fixed vertically or horizontally. It controls directly single-acting air clamps or cylinders. As a pilot valve, it operates a master valve from a remote position.

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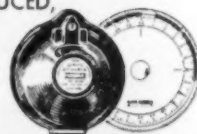


*This Works Committee agrees then that we have raised output by just over 17½%\* since we have been using those Servis Recorders in A Section.*

*Ay . . . and old Tom on No. 3 has been getting over a quid in bonus—he's not held up for material any more.*

*The whole shop has been happier now we know the real cause of hold-ups and can deal with them.*

... Another of the ways in which  
PRODUCTION COSTS ARE REDUCED,  
EFFICIENCY INCREASED and  
HUMAN RELATIONS IMPROVED  
by the



## SERVIS RECORDER SYSTEM

SERVIS RECORDERS LTD., Dept. B., 19 LONDON ROAD, GLOUCESTER

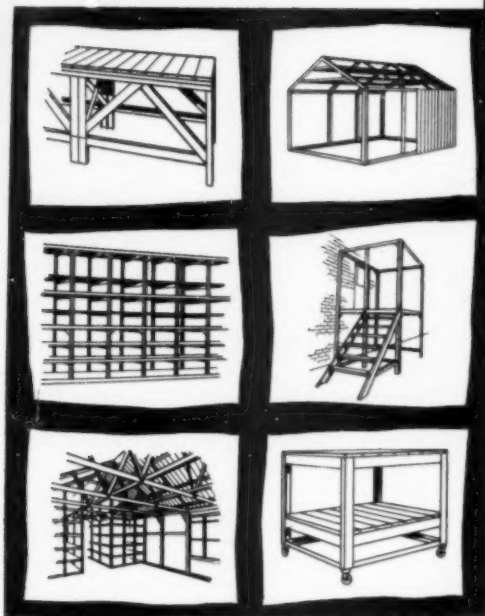
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BUSINESS

\* A fair average of results reported to us by users.



# Equip Yourself with Stonehouse **HD** slotted angle



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Now you can have all the advantages of sturdy steel slotted angle equipment in places where rain or humidity would normally cause rust damage. Stonehouse HD is rustproofed by hot dip galvanizing. It needs no painting or maintenance. Send today for descriptive leaflet.

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(1/5 a foot; less for large quantities) Twelve 8 ft. lengths 3" x 1 1/2" x 14g. with 75 cadmium-plated nuts and bolts.

## Stonehouse **HD** slotted angle

**Compare this price with paint finished slotted angle!**

For full details write to department B3, Pressed Metal Division, Williams & Williams, Roften Works, Hooton, Cheshire, or call at our Showrooms, 36 High Holborn, London, W.C.1, for a practical demonstration.

You save time and money from the moment you begin to use the

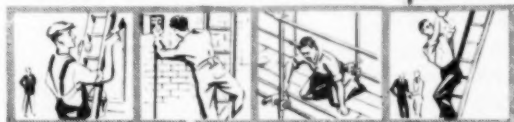
# 'Spaceman'



## PROMPT DELIVERY

The "Spaceman" will speedily and safely put your operators just where you want them without time-wasting, cumbersome scaffolding or the risky use of ladders. Made in four sizes with respective working heights of 21ft., 26ft., 30ft., and 40ft., the "Spaceman" is an indispensable tool in the hands of painters, electricians, maintenance and inspection workers. Unique locking device enables the working platform to rotate or remain fixed, as required.

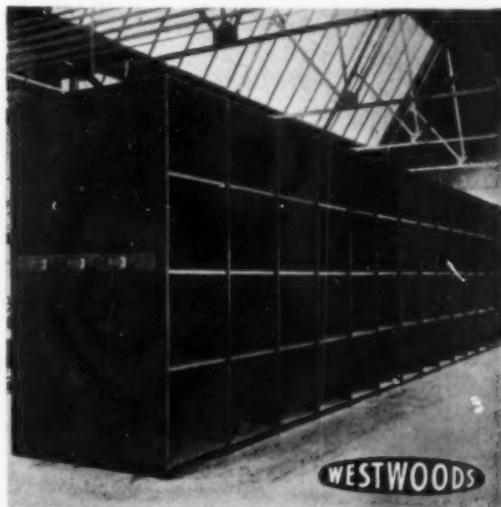
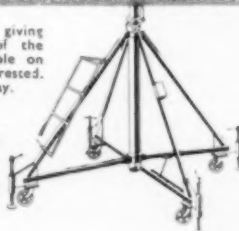
the "Spaceman" does away with cumbersome scaffolding and the hazardous use of ladders



A fully illustrated leaflet giving all technical details of the "Spaceman" is available on request to those interested. Write for your copy today.

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Storage Bins, Clothing Lockers, Cupboards

Makers of Steel Storage Equipment for 25 years

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## CANTEEN AND WELFARE

### Just the Ticket

CANTEEN service can be speeded up if counter staff do not have to handle money. A good alternative is a ticket system. The *Multi-ticket* has been designed to issue a 2s. card that is sub-divided into copper de-



Speeds up service

nominations with light perforations. The actual denominations can be arranged to suit the price ranges of individual canteens.

Also available in this range is the *Single Column* machine, which issues tickets of one denomination only.

Enquiry Ref. No. C.12/1

### Easier Polishing

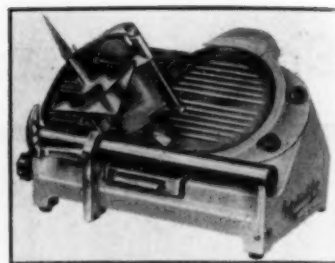
ANY cylinder vacuum cleaner (and some upright models) can take the *Polywhirl* rotating brush attachment for polishing floors. At the same time as its two brushes rotate, dust is sucked up, so that the cleaning and polishing actions are combined.

The attachment is inexpensive and comes with a 12-month guarantee.

Enquiry Ref. No. C.12/2

### All-purpose Slicer

THE *Super* gravity-feed slicing machine is completely enclosed, so that meat, etc., cannot get caught



Completely enclosed

in inaccessible ledges and crevices. It is an all-purpose machine, equally efficient for bread, bacon, joints, or cheese.

Enquiry Ref. No. C.12/3

### Silicone Barrier

A NEW barrier cream contains 5 per cent silicones, and is claimed to repel water-borne irritants like caustics and alkalis with greatly improved efficiency.

Called *Syl*, it contains no soap, and costs more than creams without silicones. But the makers say that economy is achieved in the long run because so little need be used to give good protection.

Enquiry Ref. No. C.12/4

*Does the Best  
necessarily Cost  
the Most?*



# SYNCHRONOME

## ELECTRICAL IMPULSE CLOCKS

are known the world over for their accurate timekeeping. They have been installed by hundreds of large industrial and commercial undertakings, Educational and Municipal Authorities throughout the world.

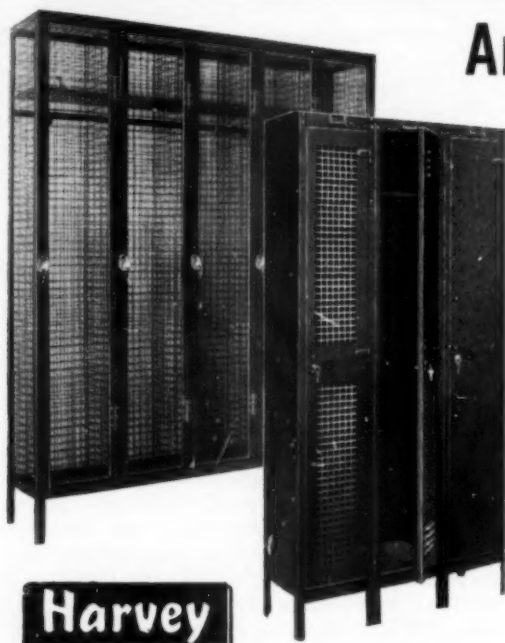
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THE SYNCHRONOME CO. LTD.  
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ACCURATE  
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IN THE WORLD



## An Important Amenity

Friction between employees and confusion at going-home time may be avoided by providing separate receptacles for clothes and personal belongings. Such provision is also important in the interest of hygiene. 'Harco' Clothes Lockers provide the answer. They are made in sheet metal or wirework, in nests of up to five in one unit, with short or full-length compartments as required.

Steel lockers are fitted with 6-lever locks which can differ up to 1,600; wirework lockers carry hasps and fasteners for padlocks. Height of both types is 72ins.

### 'HARCO' CLOTHES LOCKERS IN WIREWORK OR SHEET METAL

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GREENWICH 3232 (22 lines)



For accuracy, ease of reading, robustness, economy and long trouble free life install Rototherm Thermometers. Instruments are available to suit most Industrial, Marine and Laboratory requirements. Specialists in bi-metallic applications. *Please write for details*

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## HOW TO BUILD BETTER TEAMWORK

*Continued from page 102*

with his section foreman. On it he indicates the operations which will be allocated daily during the coming week to gangs and individual workmen. These targets are based on the records of past performances, maintained by the site clerk from the men's job cards. At the same time targets are set for the following week.

As the week progresses, details of 'actual performance' are entered under the corresponding targets. These details are taken from information supplied by section foremen. At the end of the week the completed sheet is sent to the head office, where it is compared with the broad targets originally set by the agent himself in conjunction with the planning department.

Among the other procedures which have been streamlined and standardized are: production control, labour cost control, site wages procedure,

invoicing checking, and contract and departmental costing.

On the sites, conventional work study is no longer used; its place has now been taken by production study. In this technique, a full sequence of operations is investigated and charted, the object being to determine the effect of each operation on the other links of the chain. McLeans have found that it is a more powerful technique as far as their type of work is concerned. Already it has produced some worthwhile labour economies, and it is now being applied to the problems of material waste.

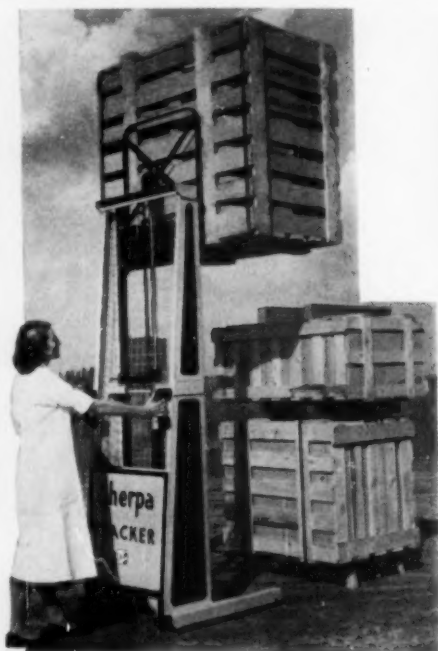
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One problem which production study throws into bold relief is the difficulty of co-ordinating the work of different trades, especially during the 'finishing' operations. But McLeans are convinced that this problem will not be solved satisfactorily until they can persuade certain trades to learn—and do—a little of the

work of other trades. At present, for example, the work of roofing a house is rather like a game of general-post, with 'specialists' popping up from time to time to do little jobs which someone else could have done quite happily.

McLeans have made this point at production committee meetings. And, with a few reservations, the men's representatives have disclosed that they are willing to 'try almost anything.' Of course, in tackling 'screws and holes' problems of this sort, the firm bring union representatives into the discussions at a very early stage.

McLeans believe that their business cannot develop fully without 'participation' by all employees. Having decided that they need industrial work to balance their 'job mix,' they have told their workers, first, that such work will be obtained only by recommendation; and, second, that recommendation will follow only if all members of the organization demonstrate their ability to work as a team.



## Invest in a Sherpa

The "Sherpa" Model IV (Hydraulic-Stacker) as illustrated, adapted to perform only one of its many valuable functions in industry.

**LIFTS 7-CWT.  
to 6ft. 9ins.**

One of a wide range of Models available with prices from £47. 10s. 0d. to £283. 8s. 0d.

Enquiries to Dept. B.

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MEMBER OF THE HESTON GROUP OF COMPANIES



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## *New Welbeck*

**Day and Night—  
Throughout the Year!**

... to pick up the accumulation of waste material in the lingerie department, and thus preserve the intricate and delicate machinery which weaves nylon stockings. The NEW WELBECK is recognised throughout the world as the most efficient of all industrial vacuum cleaners.

- ★ No dust bag to impair efficiency.
- ★ Extremely portable and manoeuvrable.

Write now for Leaflet 500 or phone for demonstration gladly given on your own premises



By appointment to  
H.M. The Queen  
Suppliers of  
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**NEW WELBECK Ltd**

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Brighton 61666 PBX

LONDON OFFICE:

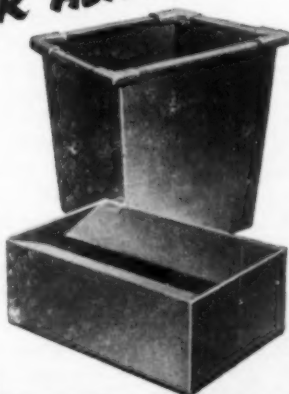
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# **BISLEY**

## **FIREPROOF**

### **WASTE PAPER BINS and FLOOR ASHTRAYS**

You don't  
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match to  
start a fire  
—a cigarette  
end or pipe  
ash may  
do it . . .

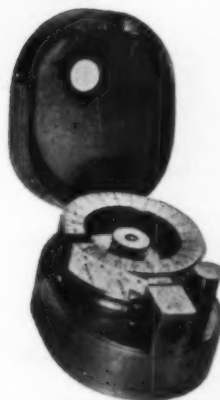


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**F.C.BROWN · BISLEY · SURREY**  
**FOR STEEL OFFICE EQUIPMENT**

# **BLICK**

## **WATCHMAN'S CLOCK**



### **YOUR WATCHMAN IS YOUR SECURITY**

Fire and burglary cost this country over £25,000,000 a year. Nearly 50,000 cases of breaking and entering industrial premises are reported every year. Watchmen are of great value only if they are properly instructed and supervised. Write now for free 12-page booklet outlining in detail the simplest and most effective system for ensuring that your Watchman guards your property as you want it guarded.

**BLICK TIME RECORDERS LTD**  
96 ALDERSGATE STREET, E.C.1.  
MONarch 6256

## HOW TO BUILD BETTER TEAMWORK

*Continued from page 102*

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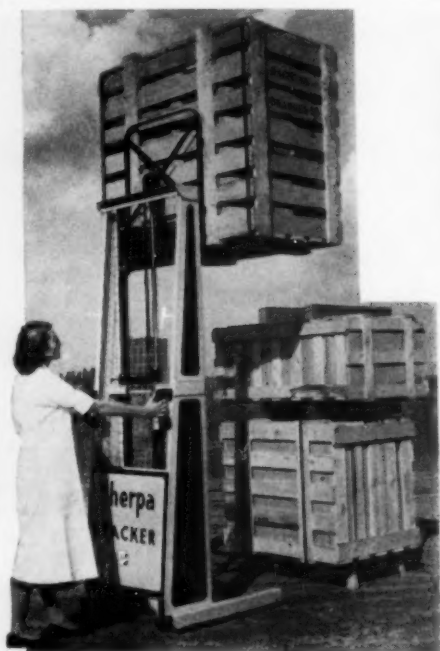
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By appointment to  
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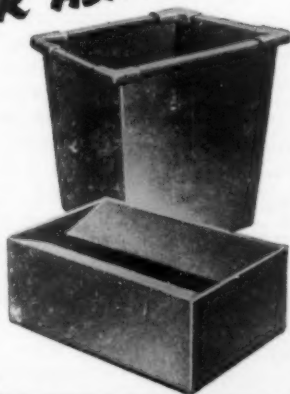
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Write for illustrated leaflet

**F.C.BROWN · BISLEY · SURREY**  
**FOR STEEL OFFICE EQUIPMENT**

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**BLICK TIME RECORDERS LTD**  
**96 ALDERSGATE STREET, E.C.1.**  
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WITH THE GREAT FEATURES  
NO SPECIAL TRAINING REQUIRED

portable  
full keyboard, anti-glare  
adds — up to £999,999 . 19 . 11  
Subtracts — even below zero  
shows true credit balance  
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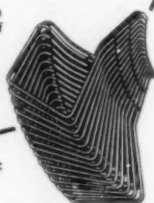
*Styled for  
Stacking*

REDRO NESTING CHAIRS are constructed of 1/2 in. or 3/4 in. high quality tubular steel, designed to give the maximum comfort for normal seating.

The chairs are light to handle, easy to keep clean, and when not required for use, are economical in storage space. Nesting one upon another, a stack of 15 chairs occupies a space only 18 in. wide by 3 ft. deep.

The REDRO NESTING CHAIR is available in 12 colours of stove enamel, and fitted with 9 different types of seats and back which meet with most specialised requirements.

The price of the REDRO NESTING CHAIR is one of the lowest on the market.



Write now for our illustrated Leaflet

**REDRO LTD.** (Dept. 28) Cogan Street, Hull

## 'SHORT-CUT' COST CONTROLS

*Continued from page 91*

and an assistant—scarcely likely to be variable!

Under these conditions the allocation and apportionment of indirect costs other than handling charges, and the attachment of some proportion to batches on an arbitrary basis, is scarcely likely to contribute anything either to control or price determination.

**Budgeting Indirect Costs.** For so many owners and managers of small concerns the very words 'budgetary control' are sufficient to induce an attack of coy self-effacement; and yet in most cases they are three parts home already.

The determination of overhead rates, if done at all reasonably, must involve an assessment of indirect costs against some broadly defined level of activity. These are the costs most in need of budgetary control in the small firm: direct costs generally come in for plenty of attention, in one way and another.

From observation I would say that the number of 'bases' actually influencing indirect costs is legion—often such unexpected things as the maintenance programme, experiments, overtime and weekend working, publicity campaigns, the patterns of orders received. Frankly, 'flexible' budgeting is hardly ever worthwhile in a very small firm. If expenditure is forecast at the beginning of the year, usually no more is required than that a proportion of that forecast appropriate to the calendar period under review should be compared with the expenditure actually recorded.

If there is a major conditioning factor (for example, tonnage or productive hours) this may be given on the report for the period, enabling a reasonably assessment to be made of the degree of success or failure achieved in relation to the budget.

What is essential is that the accounts classification should be such as to enable actual expenditure, for comparison with budget allowances, to be extracted without further analysis or allocation.



## HOW OFFSET LITHO AIDS OFFICE PRINTING

*Continued from page 109*

out to a commercial printer. So are original catalogues, which are produced by letterpress. Reprints of catalogues are, however, printed on company presses.

One recent job that proved both a money-saver and a novel attraction was a reprint of a 24-page illustrated catalogue on airmail paper for overseas distribution. It weighed less than one ounce, including envelope, and besides saving the company considerable expense in postage, had an obvious appeal to the recipient.

### *Specimen copies*

When bringing out a new catalogue, the company produce an initial supply of some 500 copies. They then distribute a specimen to each office, and await local orders for multiple copies.

This principle is also applied to the production of new forms. Since the department which initiates a form may be uncertain how effective it will be, a bulk order might prove wasteful. By printing a limited number, the department has an opportunity to gauge the form's merits. Should changes be necessary, the only expense to the company has been the cost of the plate.

Once-only work is done on a duplicator—but the two presses are seldom idle. To achieve greater efficiency, the department pre-prints its paper plates with standard information; the operator simply adds relevant data which may change from time to time. This saves typing complete stencils, and provides ready-made plates in half an hour.

When the company purchased their second press four years ago, the original machine was earmarked as a standby. But it is used almost as much as the new one.

The printing section is controlled by the publicity department; and the four girls who operate the presses also handle other duties, such as sorting, collating, punching and binding.

DECEMBER, 1956



## Swiss "Timers" in Industry

MODEL NO. 2/DEC/1/5.



MODEL NO. 2/1/5.



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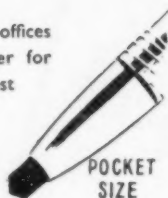
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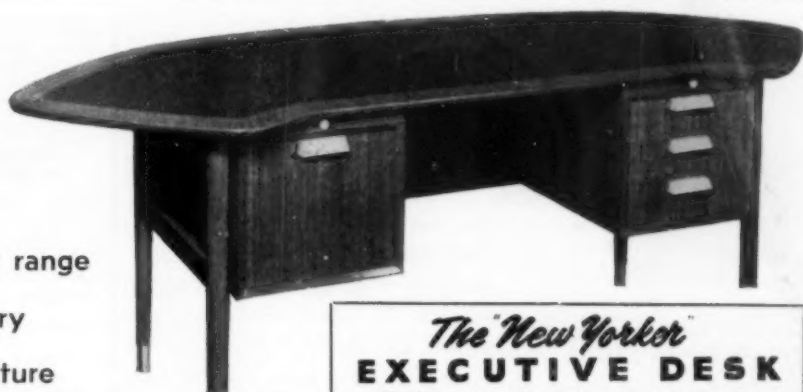
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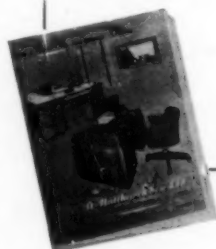
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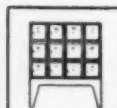


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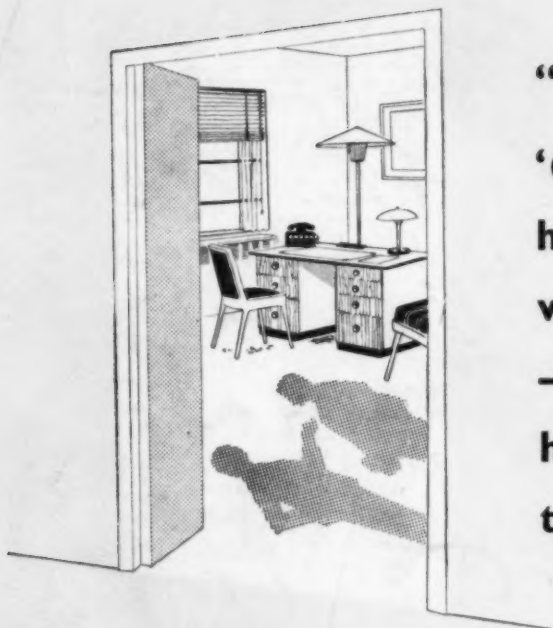
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